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The Lumleian Lectures

ON

SOME MOOT POINTS IN THE PATHOLOGY AND CLINICAL HISTORY OF PNEUMONIA.

Delivered before the Royal College of Physicians of London on May 30th and June 4th and 6th, 1912,

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LECTURE I.

Delivered on May 30th.

MR. PRESIDENT, FELLOWS, AND GENTLEMEN,—An invitation to deliver the Lumleian lectures before this College is at once an honour and an embarrassment—an honour to be allowed to follow in the footsteps of my illustrious predecessors in this lectureship, but an embarrassment when one recalls the high standards of the past. I shall not detain you with a superfluous profession of my unworthiness of so important an office, but before addressing myself to the subject of my lectures it is my pleasing duty to express my grateful thanks to you, Sir, and to the Censors of the College, for entrusting me with this honourable and onerous task.

Pneumonia is a well-worn topic, but it possesses a perennial fascination. I can only plead that I have fallen under its spell. I am fully conscious of a sense of temerity in attempting, before such an audience, to deal with so well-known and so large a subject. But although our knowledge of the disease has received considerable addition in recent years many gaps still remain to be filled in.

DEFINITION.

The classification of pneumonia is beset with difficulties, whether the basis adopted be anatomical or etiological. The anatomical conception of the malady as a lobar affection has been of service, but it has this disadvantage that lobar pneumonia may be counterfeited by confluent lobular areas of consolidation—pseudo-lobar pneumonia, as it has been called. An etiological basis is, no doubt, the most scientific and is the necessary complement of the former. But while bacteriology has already shed much light on the pathology of pneumonia, and may be expected to shed still more in the future, there are many points in the etiology of the disease which cannot yet be explained in terms of bacteriology.

Clinical medicine seeks to combine as far as possible the anatomical and the etiological. Pneumonia in its typical form may be described from the clinical standpoint as an acute febrile disease beginning in most cases abruptly, less often insidiously, associated with massive consolidation of the lung, running a fairly definite course, and terminating within ten days by crisis or lysis.

The overwhelming majority of cases answering to this description are due to a specific microbe, but difficulties arise from the fact that the same organism may be the cause of pneumonias which run a far less definite course, and also from the fact that lobar pneumonia may be the result of more than one cause. Consequently for clinical purposes our definition must be somewhat wider, and must include cases of acute febrile disease accompanied by massive consolidation of the lung. It is in this wider sense that I propose to use the term.

ETIOLOGY.

The view that pneumonia is a specific fever, and is more than a mere local disease of the lung, is not new. But it was not until the end of last century that bacteriology supplied an actual demonstration of the truth of this doctrine. Klebs was the first to discover microbes in pneumonia, and subsequently Eberth and Koch found cocci in the lungs and blood of pneumonic patients. But the independent researches of A. Fränkel, Talamon, and Weichselbaum first demonstrated the existence of a specific organism, a capsulated diplococcus, the diplococcus pneumoniæ, streptococcus lanceolatus, or pneumococcus. This diplococcus was isolated in pure culture from pneumonic lung, the culture when inoculated into animals giving rise to a general infection, with diplococci in the blood and in the different organs. Friedländer had previously described another microbe which he had frequently found in pneumonia, a short, capsulated, rod-shaped organism since known as Friedländer's bacillus, or the bacillus pneumoniæ. The staining and cultural characters of Friedländer's bacillus and the pneumococcus are very different, the former microbe also being much less pathogenic to animals. It was subsequently shown that the pneumococcus is identical with the coccus of sputum septicæmia, and also that it is a normal denizen of the throat in a considerable proportion of healthy persons.

Fränkel asserted the doctrine of the unity of pneumonia—that is to say, that all lobar pneumonia is due to the pneumococcus. This view has been widely adopted, in spite of the fact that Weichselbaum, as the result of an extensive series of observations, had come to a different conclusion, which he formulated in 1886. According to Weichselbaum,[1] the virus of pneumonia is not a single one. Lobar pneumonia may be caused by various kinds of microbes, among which are diplococcus pneumoniæ, bacillus pneumoniæ (Friedländer), streptococcus pneumoniæ identical with streptococcus pyogenes, and staphylococcus pyogenes. The pneumococcus, or diplococcus pneumoniæ, is by far the commonest cause of acute primary pneumonia. But this micro-organism, like the other microbes alluded to, may also be found in secondary inflammations of the lung and in acute broncho-pneumonia.

RESULTS OF EXPERIMENTAL INOCULATIONS.

From the first all workers in the field of experimental inoculation with cultures of the diplococcus have agreed that in laboratory animals, such as the mouse and rabbit, the result is a rapidly fatal septicæmia in which diplococci are found in the blood and organs generally. When considerable doses of the diplococcus are injected and when virulent cultures are employed, the animal dies in three days or less from septicæmia without any local lesion beyond swelling of the spleen.

With smaller doses and with less virulent cultures inflammatory lesions are found at the seat of inoculation, but the animal succumbs to a septicæmia. When cultures of low virulence are inoculated into the pleura or peritoneum fibrinous exudations are produced, from which the animal dies in several days or it may recover. In this case no septicæmic symptoms arise.

In none of the above conditions are definite pulmonary changes produced. If, however, cultures be injected into the trachea or be inhaled the lungs show hyperæmia and partial consolidation, but not true fibrinous pneumonia. But in resistant animals like the rat large doses of cultures injected subcutaneously are said to give rise to considerable areas of consolidation resembling croupous pneumonia.[2]

Wadsworth[3] found that in rabbits partially immunised by injections of pneumococcal cultures subsequent intratracheal injections of virulent diplococci did not give rise to general infection; but if the animal were not too highly immunised caused pulmonary lesions comparable to those of lobar pneumonia in man. Similar lesions have been produced in the sheep and dog, which are very resistant to the pneumococcus, by direct injection of pneumococcal culture into the lung. But the conditions here are so entirely different from those met with in pneumonia in the human subject that the experiments are of little value. Quite recently Lamar and Meltzer[4] have succeeded in producing fibrinous lobar pneumonia in dogs by intrabronchial injections of bouillon culture of pneumococci. The anatomical features varied according to the stage of the disease and corresponded to the stages found in man.

Man is evidently endowed with great powers of resistance to the pneumococcus, as shown by the high percentage of recovery in pneumonia. Further, in cases comparable to pneumococcal septicæmia of animals, recovery is not uncommon in the human subject. It appears, therefore, that in this more acute pneumococcal infection, in which the cultures are very virulent and in the more sensitive animals, the pneumococcus causes a septicæmia from which the animal rapidly dies without any marked local changes in the organs. In more resistant animals the septicæmic condition is less marked or absent, and fibrinous exudation occurs in the lungs and serous membranes as in man.

But it has been shown that most of the localised complications of pneumonia are due to the diplococcus, such as meningitis, peritonitis, pericarditis, bronchitis, endocarditis, otitis, &c. Moreover, in many instances a primary menin gitis,

pericarditis, peritonitis has been proved to be pneumococcal when the lungs had escaped entirely. The same is true of inflammations apparently primary of other parts—rhinitis, tonsillitis, conjunctivitis, orchitis, prostatitis, cystitis, enteritis, thyroiditis.

Mention may here be made of an extensive research, conducted by Királyfi[5] of Budapest in Professor Bordet's laboratory in Brussels, on pneumococcal infection in guinea-pigs. Királyfi finds that, contrary to the usually accepted statement, this animal is very susceptible to infection. Of the 25 guinea-pigs inoculated subcutaneously with pure cultures a few recovered, one was killed 6 days afterwards, the rest died 24 hours to 7 days after infection. The results of his experiments confirm the conclusion of clinical observers that the heart is specially liable to suffer in pneumococcal infection. In cases of rapidly fatal septicæmia without any gross lesions of any organ microscopical examination of the heart shows definite changes in the myocardium or in its interstitial tissue. The first change observed is a dilatation of the capillaries and small arteries. At a later stage capillary hæmorrhages occur, and somewhat later œdema of the myocardium with dilatation of the lymphatics associated with proliferation of their endothelial cells. Numerous lymphocytes are found in the œdematous areas, a fact which stamps the œdema as inflammatory, although no diplococci are found in the muscular walls. Œdema is most marked near the arterial ostia, where fibrous tissue is most abundant. In no case was endocarditis found. In many cases the heart was flabby and dilated. This dilatation could not be ascribed to inflammatory or degenerative myocardial changes, as dilatation was present in cases showing nothing more than circumscribed œdema and dilatation of lymphatics and small blood-vessels. It was only in cases that survived for several days that pronounced degenerations of the myocardium could be recognised. In most cases pericarditis was present, the exudation consisting of fibrinous threads containing lymphocytes and scanty diplococci in their meshes. Islets of small-celled infiltration between the muscular fibres were very common. In some instances the myocardium had undergone softening, and in one case extensive coagulative necrosis resulted. The suprarenal capsules were in almost every case found to be the seat of hyperæmia and hæmorrhage. Changes in the lungs were rarely observed, and when present they consisted of microscopical collections of small cells round the capillaries. Subcutaneous injection of pneumococcal cultures was rapidly followed by an extensive inflammatory œdema at the seat of inoculation.

SOURCES OF DIPLOCOCCI.

It has been shown that pneumococci can be found in the throats of a large proportion of healthy persons, and the virulence of the organisms has been proved by inoculation of susceptible animals. The virulence of the diplococci thus obtained can be increased by successive passages through suitable animals like the mouse.

By analogy we may conclude that successive passages through human subjects must largely add to the virulence of any given strain of pneumococcus. This may help to explain the pernicious character of the disease in some epidemics of pneumonia. According to Park and Williams[6] a lower percentage of strains of diplococci virulent for rabbits was obtained from the throats of normal persons than from cases of pneumonia. Netter found that the diplococci of healthy saliva are most virulent during those times when the mortality from pneumonia is highest.

The strains of diplococci obtained from different sources vary considerably in virulence, as many observers have found. In artificial cultivations the microbe soon loses its pathogenic properties. Virulence can only be preserved by frequent passage through susceptible animals, the mouse in particular. But in dried sputum the diplococcus maintains its pathogenic properties for a considerable time. Kolle and Hetsch[7] state that when the dried sputum is exposed to diffuse sunlight the organisms may maintain their activity for 55 days. If dried sputum or blood be kept in a dry place and protected from light the diplococci may remain virulent for months or years. The resistance of the microbe under these conditions is attributed to the protective influence of its albuminous coating. The pneumococcus is very resistant to cold, but is very sensitive to moist heat, being killed by a temperature of 52° C. in 10 minutes. It is also easily destroyed by the ordinary disinfectants. But the resistance varies much with different strains.

Luetscher[8] finds that diplococci obtained from the pharynx in cases of pneumonia have the same virulence as those obtained from the sputum, whereas strains obtained from the pharynx after resolution has taken place and expectoration has ceased have a relatively low grade of virulence. He ascribes this loss of virulence to an unfavourable action of the saliva.

The main sources of supply of the diplococcus seem to be the cavity of the mouth and throat of healthy people and the sputum of pneumonic patients. Considering the highly resistant character of the microbe in dried sputum and the wide diffusion of the latter, the opportunities of infection must be very considerable.

Whether pneumonia is excited by the entrance into the body of dried sputum containing diplococci from without, or whether it is to be attributed to auto-infection with germs constantly present in the throat, is still uncertain. It seems somewhat difficult to believe that the continued presence of diplococci in the throat would not lead to the establishment of a certain degree of immunity against infection with the particular strain, whereas the entrance of a different and perhaps more virulent strain of pneumococcus from external sources might, under certain conditions, be able to cause infection.

MODE OF INFECTION OF LUNG: AEROGENIC THEORY.

If the sources of the diplococci are not in doubt the same cannot be said of the method by which the lung is affected.

The view most widely held is that the microbe is inhaled into the lung. This view presents some difficulties. From the wide distribution of the germs, whether in the throats of living people or in the form of atmospheric dust, the microbe must frequently be inhaled with the air, and yet pneumonia is a more or less exceptional occurrence. Some other conditions favouring the development of the diplococcus, some disposition, has therefore been assumed.

That bacterial organisms can pass into the lungs through the air passages is proved by an experiment of Nenninger,[9] in which guinea-pigs were exposed to a spray of a culture of micrococcus prodigiosus for ten minutes. The animals were killed immediately afterwards by puncture of the medulla, careful precautions against regurgitation of oral secretions into the air passages being taken by clamping the trachea. Cultivations were made from the periphery of the lung, a part which contains only alveoli and smaller bronchi. A plentiful growth of the micrococcus was obtained, showing that the germs had been inhaled into the lungs. Weichselbaum, Babes, and others have found that the lungs of healthy animals contain no microbes, or at the most were few. Paul believes that under ordinary circumstances diplococci which enter with the air are destroyed in virtue of a bactericidal action of the lungs, failure or impairment of this action leading to infection. This view is adopted by Weichselbaum. The seasonal incidence of pneumonia in the late winter and early spring months when alterations of temperature are very rapid, commonly attributed to diminished power of resistance, may be explained on this hypothesis by a corresponding failure of bactericidal action.

Some light has been thrown on the part played by chilling of the surface in the production of pneumonia by experiments on guinea-pigs and rabbits. Artificial cooling of these animals, immediately before or after intratracheal injections of cultures or pneumonic sputum, was followed by infection, whereas negative results were obtained with animals that were not so exposed to cold.

Weichselbaum explains these results as being due to rapid circulatory disturbances modifying the bactericidal action, and he invokes a similar explanation for cases of traumatic pneumonia. The pneumonia which occasionally attacks persons rescued from drowning was ascribed by Fränkel to mechanical damage to the epithelial lining of the alveoli; but Weichselbaum considers that sudden cooling may be the cause. Löwy and Richter found that animals previously injected with tissue juices that excited leucocytosis survived the injection of two or three times the fatal dose of a pneumococcal culture.

The special frequency of pneumonia in the months with the greatest variability of temperature may also be connected with a widespread prevalence of catarrh at these times, favouring an increase of the virulence of diplococci present in the throat.

But the lobar distribution of pneumonia remains to be accounted for. In pneumonoconiosis, which is undoubtedly

the result of the entrance of finely divided particles through the bronchi, the pulmonary lesions are not lobar, but discrete, nodular, peribronchial. The same is true of pulmonary tuberculosis, which is generally attributed to inhalation of infective dust into the bronchioles. We should rather expect on the aerogenic theory that virulent diplococci in their passage through the bronchi to the lung would excite some bronchitis. But it is well known that in many cases of pneumonia there are no signs or symptoms of bronchitis whatever. The experimental production of lobar pneumonia in certain animals by intratracheal or intrapulmonary injection of pneumococcal cultures cannot be regarded as affording conclusive evidence in favour of the aerogenic theory in man, for the conditions are not fairly comparable.

Another view that has been put forward is that the germs entering the bronchi pass into the bronchial glands and thence invade the lung. The constant changes in the bronchial gland in pneumonia have been cited in support of this view, but the glandular affection may with more probability be regarded as secondary to the pulmonary.

HÆMATOGENOUS THEORY.

Others, following Jürgensen, believe that the microbe when inhaled passes into the blood and causes a septicæmia, becoming subsequently localised in the lung. It has been also suggested that the diplococci obtain direct entrance to the blood stream from the throat. But in neither of the last two cases is any indication given of the route by which the pneumococcus enters the blood. In favour of the septicæmic origin of pneumonia it has been urged that in many cases symptoms of a general constitutional character precede the development of local symptoms or signs of disease of the respiratory organs by some days. Indeed, instances are known in which physical signs of pneumonia do not appear until the time of the crisis. The current explanation of this fact assumes that the morbid process in the lung was deeply seated and did not approach the surface until the disease was nearly at an end. This explanation may be valid for some cases, but it cannot account for all—for example, for pneumonia of the apex of the upper lobe, the thickness of this part of the lung being so slight as to preclude the notion that consolidation could long elude physical examination.

In a joint publication entitled "Pneumococcémies," Lemierre, Abrami, and Joltrain [10] contribute two very important cases bearing on this question. In both instances the patients were admitted suffering from severe constitutional symptoms without any signs or symptoms of pulmonary disease. Both patients were admitted with the diagnosis of typhoid fever, one on the eighth, the other on the fourth day of the illness. The blood was examined on the day of admission in each case, and gave a negative result to the Widal test, but in both a pure culture of diplococci was obtained in 24 hours. On the tenth day in both cases the patient complained of pleuritic pain, and signs of pneumonia appeared. Slow recovery ensued in each instance. The authors regard these cases as strong evidence of the hæmatogenous origin of pneumonia. In the first case diplococci were found in the blood two days, in the second case six days, before the appearance of symptoms or signs of pneumonia. They remark that some Italian and German observers have found diplococci almost constantly in the blood of pneumonic patients. Prochaska [11] found them in almost every case he examined.

Widal found them only in one out of four cases. Memmi in 80 cases obtained a positive result in 25 per cent. Wiens [12] believes that the presence of pneumococci in the blood is practically constant, the success of the cultivation depending on the nature of the culture medium. In a total of 33 cases examined by him the result was positive in 26. In 30 of these cases, using blood-agar as medium, 13 were positive. In 15 cases with peptone medium, 13 were positive. In 6 cases cultivated in a special peptone dextrose fluid medium, all 6 were positive. In some instances, especially with mild cases, it may be necessary to incubate the blood for 48 hours in the peptone dextrose fluid.

Wiens thinks the conclusion is warranted that bacteriæmia in croupous pneumonia is constantly found when a suitable culture medium is employed. [13] Consequently he holds that the discovery of bacteriæmia possesses only a limited prognostic significance. A large number of pneumococci in the blood generally warrants a grave prognosis, but a small number may be found in grave and fatal cases. In such circumstances nervous symptoms of toxæmic origin are generally present. Pneumococci do not disappear from the blood with the cessation of fever, but may persist for 24 hours or more. In view of the constant presence of pneumococci in the blood the description of cases of pneumonia with bacteriæmia as pneumococcal sepsis is unnecessary. This term should be reserved for cases of pneumococcal infection, where septic symptoms predominate, and pulmonary manifestations are absent, or are merely a part of the general infection.

Roedelius [13] arrives at somewhat different conclusions, preferring solid media for the detection of germs in the blood—agar and glucose agar. In 335 clinical blood tests he found the pneumococcus in 64 = 19·1 per cent. In 69 post-mortem blood tests he obtained a positive result in 51 = 83·9 per cent. Of the 64 cases in which pneumococci were found in the blood during life, 29 recovered, 35 died. In general, cases with bacteriæmia were severe. The number of germs in 2·0 c.c. of blood varied greatly, there being a clear relation between the severity of the disease and the number of the microbes. In cases examined frequently the pneumococci were found to appear and disappear repeatedly. The chief conclusion of this paper is that entrance of the germs into the blood stream is by no means invariable.

Lemierre, Abrami, and Joltrain also point out that lesions limited to the pulmonary alveoli, as is usual in pneumonia, can hardly be explained otherwise than by a hæmatogenous origin. The marked tendency of pneumococcal infection in man to provoke changes in the lung offers no more difficulty than is presented by the determination of the typhoid process to the intestines, or of tuberculosis to the lungs, both supplying illustrations of the tissue proclivities of different microbes, as pointed out by Follet and Sacquépée. [14]

A case by Boulloche in which pneumococcal arthritis and myositis were followed by lobar pneumonia five days later, and similar experiences of Segré and of Desguins, in which the lung was presumably infected through the blood, are also cited in support of the hæmatogenous origin of pneumonia. The occasional occurrence of lobar pneumonia in the newborn infants of women suffering from pneumonia, where the diplococci can only have gained access to the fœtus through the blood, is another case in point.

Guided by the analogy of tuberculosis—where, according to Calmette's view, the tubercle bacilli reach the lung through the intestine—Calmette, Vansteenberghe and Grysez [15] introduced virulent cultures of diplococci through an œsophageal tube into the stomach of guinea-pigs. The animals, when killed at the end of 24 hours, showed congestion of the lungs, and scrapings of the lung tissue contained abundant diplococci. In rabbits a similar procedure gave like results, though the pulmonary engorgement was less intense. If finely divided carbon particles were added to the cultures, the lungs in 24 hours showed diffused anthracotic changes. But in no case were lobar pneumonic lesions produced. Control animals treated in the same way recovered in a few days. The authors believe that in man pneumonia is due to hæmatogenous infection, the diplococci being swallowed and passing through the thoracic duct into the blood-stream.

If we compare the different views that have been expressed it seems from the early date at which diplococci may be found in the blood and from the clinical evidence that pneumonia so often appears for some days under the guise of a general infection without local manifestations that a septicæmic origin supplies the best explanation. But the exact route by which infection of the blood takes place has yet to be demonstrated.

IMMUNITY.

Among the many remarkable characteristics of pneumonia none is more striking than the sudden termination, whether in death or recovery. All observers are agreed that death is commonly due to circulatory failure, though whether this is the result of cardiac or vasomotor paralysis is still a matter of dispute. A knowledge of the steps by which recovery takes place involves a comprehension of the process of immunity.

Kolle and Hetsch in their text-book point out that after recovery from pneumococcal infection man acquires a certain degree of immunity against the pneumococcus. But this immunity is neither absolute nor persistent, for patients who recover from severe pneumonia may again contract pneumococcal infection more than once in some form or other. Still, in most cases some protection is conferred. In animals, also, prolonged treatment with pneumococcal cultures gives immunity. Some workers seem to have succeeded in immunising rabbits with dead or attenuated cultures or with

filtrates of cultures, but the best method of immunisation consists in the intravenous injection of living virulent culture, beginning with very small quantities and cautiously increasing the dose. As to the explanation of this immunity opinion is divided. Experiment shows that the blood serum of immunised animals and the serum of human convalescents from pneumonia contain substances possessed of immunising action. The formation of these substances was stated by Wassermann to take place almost exclusively in the bone marrow. But Dr. Bulloch informs me that later experience has shown that the elaboration of antibodies is not the monopoly of any tissue, but is a widely distributed property, largely developed in the subcutaneous tissues. By injecting small quantities of human convalescent serum into rabbits and mice protection is conferred against simultaneous injection of such quantities of diplococci as prove rapidly fatal to control animals, and cure may even be effected in animals that already show clear signs of infection. The protective action of the serum is not dependent on antitoxic substance, for the poisons of the pneumococcus not being soluble are not discharged from the microbe, but are intimately bound up with the bacterial cell—i.e., they are endotoxins. Moreover, the formation of antitoxic substances in the immunised human or animal body in response to the presence of endotoxins is not abundant. It must be concluded, therefore, that the action of the serum is antibacterial. And, as shown by Neufeld and Rimpau, specific bacteriotropic substances in pneumococcal serum possess a certain importance. The above extract from Kolle and Hetsch gives a concise statement of the present position as regards immunity. Luetscher (*loc. cit.*) concludes that the crisis of pneumonia is not the result of any change in the virulence of the pneumococci, for as long as these microbes are expectorated they retain practically their original virulence.

Attempts have been made to gain some insight into the causation of immunity by a study of the blood serum of pneumonic patients before and after the crisis. Seligmann and Klopstock[16] examined the pre-critical and post-critical serum by the method of complement fixation. In the pre-critical serum they expected to find the presence of antigen, in the post-critical serum of antibodies. As the result of their observations, conducted with necessary control experiments, in no case were they able to recognise any fixation of complement, and even in a fatal case of pneumonia, where presumably there must have been an increase of antigen, they failed to find any. Further, making use as a test of Römer's polyvalent pneumococcal serum, whose richness in specific antibodies could be determined by experiments with pneumococcal extracts, they were unable to detect any antigen either in pre-critical or post-critical serum. Extracts of the spleen and of red hepatised lung in a fatal case of pneumonia showed the presence of antigen when tested with Römer's serum. Extracts of pneumococcal cultures used as artificial antigen reacted with Römer's serum but not with pneumonic serum, whether before or after the crisis. Experiments made to test the protective power of pneumonic serum in white mice against inoculation with pneumonic sputum gave a negative result. Seligmann and Klopstock conclude that a closer insight into the nature of the pneumonic crisis has not been obtained by these experiments, and that their results furnish no experimental proof of the interaction of antigen and antibodies in pneumonia.

Neufeld and Haendel,[17] in an elaborate research on the origin of the crisis in pneumonia and on the immunising action of pneumococcal serum, come to a very different conclusion. In opposition to Seligmann and Klopstock, they believe that the crisis not only depends on the formation of antibodies, but that these antibodies can be recognised experimentally with certainty, and may even be estimated quantitatively. The antibodies found in the blood of convalescents from pneumonia behave in exactly the same way as those artificially produced in animals. The practical application of pneumococcal serum for therapeutic purposes depends on the preparation of a sufficiently powerful serum and on the rapid introduction of the same into the body in sufficient quantities. For this purpose they recommend as indispensable intravenous injection of large quantities of serum, which, according to recent experience, is free from danger. The authors' experiments with the serum of convalescents from pneumonia were conducted on white mice in the same way as in the case of protective animal serum. They were unable to test the serum of a large number of patients recovering from pneumonia, but in every case examined they were able to detect the existence of antibodies, so that their presence may be regarded as invariable. In one case the result at first seemed to be negative, but this was explained later by the discovery that the pneumonia in question was caused by an atypical strain of pneumococcus. When the patient's serum was tested with this strain it proved to contain abundant antibodies. The serum was always tested as to its protective action against the same standard strain of pneumococcus. This strain, which manifested a constant degree of virulence, was almost invariably used for the preparation of their protective serums. Comparative experiments were made with [a fixed quantity, 0·2 c.c., of pneumonic serum, normal human serum, and serum of immunised horses and asses. The result showed that pneumonic serum possessed a marked protective power, much greater than normal human serum, though less than that of the immunised horse or ass. In one case the post-critical serum showed a strongly protective action in mice and rabbits, whereas the pre-critical serum from the same case had no definite effect. The serum of horses and asses immunised by intravenous injections of liquid virulent cultures possesses not only a protective but also a curative action. It is suggested that the negative results of Seligmann and Klopstock's protective experiments—in which pneumonic sputum and convalescent serum were mixed and injected together into mice—may be explained by the unsuitable nature of the method.

Seligmann and Klopstock, with the method of complement fixation, failed to find antigen in the pre-critical serum of pneumonia or complement-fixing antibodies in the post-critical serum, though in pneumonic lung and sputum antigen was found which fixed complement with Römer's pneumococcal serum. But, as Neufeld and Haendel point out, these observations do not disprove the participation of bacteriotropic substances in the causation of the crisis, but they rather point to bacteriotropins as the only antibodies that are concerned. As pneumococci are usually destroyed mainly in cells and are not set free and dissolved in the serum, it is easy to understand why extracts of organs contain antigen, while the serum does not. But this last conclusion does not follow directly from Seligmann and Klopstock's experiments, for the development of complement fixation often requires the presence of considerable quantities of antigen. Moreover, as bacteriotropins do not fix complement, there is no reason why complement-fixing substances should be present in the serum of convalescents.

That the crisis of pneumonia depends on the development of antibodies seems to admit of no doubt.

CRISIS.

G. and F. Klemperer, under the influence of Behring's discovery, conceived that in pneumonia the poisonous action must depend on a toxin analogous to the diphtherial toxin, and that the removal of the toxin at the crisis must be due to its neutralisation by an antitoxin. Numerous experiments have proved that in every case of pneumonia the diplococci pass into the blood, and therefore into other organs, and the general condition of the patient shows that they develop marked toxic action. Whereas it has not been certainly proved that definite toxic effects can be produced by killed cultures or by filtrates of diplococci, experiments *in vitro* show that living cocci, in virtue of their vital activity, exercise a rapidly destructive action on red corpuscles and leucocytes. In all probability a similar action is exerted on other cells of the body.

If we now suppose that, in consequence of a copious development of bacteriotropins, the cocci growing in the blood and organs are devoured by phagocytic cells, the result is that the further growth of the cocci and the consequent intoxication are suddenly arrested, although the complete destruction of germs in the interior of cells must take somewhat longer. An explanation is needed of the fact that the antibodies developed in pneumonia, as a rule, bring about a rapid critical method of cure in contrast with the slow recovery in other infectious diseases in which also antibodies presumably play the chief part.

In Neufeld and Haendel's researches it was repeatedly found that the most powerful antiserums, when given in less than a certain dose, fail to confer any protection. In white mice 0·2 c.c. serum (i.e., 1/100th of body weight of a mouse) protects against 0·1 c.c. of culture—i.e., against

nearly one million times the fatal dose. With proportionally smaller doses both of serum and of culture the results are far less satisfactory, and a point is soon reached when the reduced amount of serum fails entirely to protect against minimal doses of cultures or shows a very uncertain action.

In protective experiments the quantitative relations are very striking. The law of multiples does not hold good, only very large doses of serum protect from large doses of culture, small doses of serum have no corresponding effect on weaker infections, and with a further diminution of the serum all effect ceases. In man attempts at cure can only be expected to give good results with large doses of serum, and the addition of antibodies in less than a certain quantity will not, as in diphtheria, give less decided results, but probably will have no action at all. It is not the case here, as in diphtheria, that a definite quantity of antibodies neutralises approximately an equal amount of virus. But as soon as the antiserum injected is diluted beyond a certain limit by its distribution throughout the body it ceases to have any action whatever, at any rate at first, until the development of antibodies takes place in the infected organism.

It is necessary, therefore, that pneumococcal serum should be administered exclusively by intravenous injection, and in as large doses as possible. The amount of the dose can only be determined by experiment. In mice the full action of the protective serum is only obtained in a dilution of not more than 1 in 100—viz., 0·2 c.c. in a mouse weighing about 20 grammes. But the same proportion must not without more ado be assumed for man, who is much more resistant to pneumococcal infection than laboratory animals. It is probable that the pneumococcal antibodies can exert their influence in a much higher dilution in man than in the mouse.

The peculiar quantitative relations observed in the action of the various serums throw some light on the nature of the virus. We may suppose that in the course of the disease antibodies are found, but at first are almost without effect, until a certain concentration is reached. But then with a further accumulation of antibodies an action is exerted, not merely in proportion to the increasing concentration, but much more rapidly. The result is that the cocci circulating in the blood and germinating in the various organs are rendered harmless in a short time by phagocytosis.

I have tried to give a rather full account of Neufeld and Haendel's views, for they seem to be very important, and no brief statement could do them justice. The fact that they have succeeded in conferring a high degree of protection against the pneumococcus in the mouse, perhaps the most sensitive of all animals to this infection, is a very remarkable achievement. These experiments raise hopes that, in spite of the disappointing experience of serum treatment in the past, improvements in this method may yet give good results. But in the event of further therapeutic experiments in this direction it will be well to bear in mind these authors' recommendations as to the dose and the method of administration of the serum. We must look to the bacteriologists to provide us with a suitable serum.

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The Croonian Lectures

ON

THE PATHOLOGY OF IMMUNITY,

AS ILLUSTRATED BY THE BEHAVIOUR OF FLUID EXUDATES FROM THE TISSUES AND VARIOUS BODY CAVITIES, IN ACUTE AND CHRONIC BACTERIAL INFECTIONS, MORE ESPECIALLY WITH REGARD TO THE PROBLEM OF AGGRESSINS.

Delivered before the Royal College of Physicians of London

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LECTURE I.

Delivered on June 11th.

MR. PRESIDENT AND GENTLEMEN,—Allow me to offer my sincere thanks for the honour conferred by appointing me Croonian lecturer for the present year. I wish to bring before your notice in these lectures numerous investigations which I have made during the last two years concerning the presence of inhibitory substances in the body fluids and blood stream and the part played by these substances in infection and immunity.

ON THE RESULTS OF THE INVESTIGATIONS OF THE BLOOD AND BODY FLUIDS OBTAINED FROM SOME 150 CASES OF ACUTE AND CHRONIC INFECTIVE DISEASES OCCURRING IN THE HUMAN SUBJECT.

It was thought necessary to ascertain the comparative value of the exudates formed during the course of bacterial infections in man; whether these exudates contained active substances similar to those found in blood serum and possessing the same degree of activity. On the other hand, are substances of an inhibitory nature present in these exudates and in blood serum, and, if so, is the action specific or otherwise? If an inhibitory action occurs, is it directly on the leucocytes or on the serum or both? It was also considered necessary to ascertain, as far as possible, the reaction of the exudates, and whether the reaction was directly related to the phagocytic activity of the fluids. These various points had to be studied in detail with human exudates before any attempt was made to ascertain the nature of the body fluids formed in animals as the result of experimental inoculation, and it is owing to the vast amount of clinical material at our disposal that work of this kind is possible.

It is necessary to refer to the interesting work recently done by Lamar,[1] who has studied from a chemical aspect pneumococcal infections and attempted to bring his results into line with pneumococcal infections in man. Dr. Lamar published a paper in the *Journal of Experimental Medicine* in 1911, and describes there the results of his investigations on the action of sodium oleate and anti-pneumococcus serum on the pneumococcus both *in vitro* and in experimental infections. This paper also contains an introduction by Simon Flexner.

I cannot do better than quote Flexner's own words at the commencement of this introduction:—

"The phenomenon of recovery from any local bacterial infection has not been fully explained and it is not wholly accounted for by the several activities of blood serum and phagocytosis which have often been viewed as gradually overcoming and removing the offending bacterial agents. Indeed, this restricted view has never been fairly established either by direct observation upon affected human beings or animals, or through experiment; and it leaves out of account the effects of certain definite chemical substances other than antibodies, which are always present in a focus in which tissues and cells are disintegrating. Some of these chemical substances are injurious to bacteria and even to somatic cells we now know, and it has been found possible to define more precisely the chemical nature of part at least of the injurious chemicals."

[1] Richard V. Lamar: Chemo-Immunological Studies on Localised Infections, Journal of Experimental Medicine, Vol. XIII., Nos. 1 and 3, 1911.

He also refers to the fact that Lamar has extracted relatively large quantities of lecithin-like bodies or lipoids and fatty acids from the human lung, the seat of resolving lobar pneumonia. Lamar, in describing the results of his own work, states that under the influence of minimal quantities of alkaline oleic acid soaps the pneumococci are so modified that they become more subject, not to phagocytosis, but to increased serum lysis, which is much more effectual with immune serum than in the case of normal serum. The effect of the immune serum is due to its greater lytic property and not to any phagocytic principle. It was originally pointed out by Noguchi that hæmolysis and bacteriolysis by the unsaturated fatty acid soaps are inhibited by the protein of the serum.

Lamar took advantage of the observations made by von Liebermann and von Fennyvessy, that the inhibitory effect of serum upon soap hæmolysis could be prevented by means of boric acid, and, therefore, he was able to show that suitable mixtures of serum, soap, and boric acid are able to exert deleterious and solvent action on the pneumococci, and the effect is greatest when the immune serum is employed in the mixtures.

Infection can not only be prevented when the mixture of the immune serum, soap, and boric acid is added to the pneumococci before intraperitoneal injection, but the infection can likewise be prevented when a therapeutic injection of a mixture of the three substances mentioned is made to follow the inoculation of highly virulent diplococci. Virulence of the pneumococci is somewhat diminished by the soap treatment, but the treated organisms are not rendered more subject to phagocytosis. Lamar considers that the action of the soap is directed upon the bacterial cells, and therefore they are rendered more vulnerable to the action of the immune serum. In a further paper published at a somewhat later date Lamar concludes that the action of these soaps on pneumococci is very similar to the effect which they produce on red blood corpuscles.

The vast majority of pathological investigations on animals are undertaken for the advancement of our knowledge of the various diseases affecting the human race. However remote such work may appear to be, yet it probably largely tends to be directed for the benefit of mankind. It was made possible in these investigations to trace almost each stage of infection met with in man, and compare and contrast the results with those produced experimentally in animals. For this reason it has been thought advisable to record the results of the investigations on the body fluids of man and then to proceed with the experimental work on animals.

On Some of the Active Properties of the Body Fluids obtained from Acute and Chronic Infective Processes Caused by the Pyogenic Bacteria.

When these investigations were first commenced it was proposed to ascertain the relative phagocytic and certain other values of exudates obtained from connective tissue and the serous sacs and to contrast the results with those of blood serum. A few observations of this kind were made by Wright and Douglas in 1903, and by Wright and Reid in 1906. In 1899 Wright and Lamb drew attention to certain experiments they had completed and which to a limited degree are directly related to this question. They compared the agglutinative properties of splenic extract with the blood of the same cases in typhoid and Mediterranean fever and the observations on typhoid fever confirmed those of Courmont.

Wright and Lamb [2] showed that the splenic juice in cases of typhoid and Mediterranean fever contains much less agglutinating substance than the circulating blood.

Wright published with Douglas in the Proceedings of the Royal Society" and more fully with Reid [3] in a subsequent number of the Proceedings, papers dealing with phagocytic investigations on various body fluids. These observers refer to the lowered bacteriotropic pressure in the actual foci of infection which accounts, in their opinion, for the cultivation of the pathogenic microbes from the interior of an infective lesion which has at disposal in the circulating blood a considerable reserve of antibacterial substances.

Certain experiments will be quoted from the papers referred to so as to illustrate the method which they adopted and the reasons for these deductions.

Observation 2.—Case of osteomyelitis of femur.

	Tuberculo-opsonic index.		Staphylo-opsonic index.
Serum	1·0	.....	2·5
Fluid obtained from pus ...	1·1	.....	0·9

"The fact that the opsonic index of the patient's circulating blood was here normal to tubercle, while it was two and a half times greater than normal with respect to the staphylococcus was taken as evidence that the patient was not infected with tuberculosis, and that he was infected by the staphylococcus, and had responded to that infection by a production of immunising substances."

Observation 3.—Case of psoas abscess.

	Tuberculo-opsonic index.		Staphylo-opsonic index.
Serum	2·4	.....	5·0
Fluid obtained from pus ...	1·23	.....	1·2

"The fact that the fluid obtained from the pus was impoverished in both tuberculo- and staphylo-opsonic substances as compared with the blood was taken as evidence of a combined infection by the tubercle bacillus and staphylococcus."

Observation 6.—Case diagnosed as tuberculous peritonitis complicated with pleurisy.

	Tuberculo-opsonic index.
Serum	0·7
Peritoneal fluid	0·28
Pleural fluid	1·0

Comparing these results, evidence was taken that the patient was suffering from tuberculous peritonitis. The fact that the opsonic content of the pleural fluid worked out higher than the serum was taken as evidence that the pleural effusion had occurred at a period when the opsonic power of the blood was at 1 or above 1. At the necropsy there was tuberculosis of the lungs, pleuræ, and peritoneum.

Opie,[4] in a suggestive paper published in 1907, shows by experiments conducted on animals that an inflammatory exudate caused by one micro-organism may contain no opsonins for this or other bacteria. A guinea-pig inoculated intraperitoneally with the staphylococcus aureus died in 24 hours. The peritoneal fluid was found to be devoid of phagocytic properties for the staphylococcus aureus and bacillus typhosus. He also showed that the pleural exudate obtained by repeatedly injecting a dog with turpentine was free from opsonins for the staphylococcus aureus, although a sero-fibrinous pleural exudate resulting from an injection of turpentine into the pleural cavity was capable of inciting phagocytosis for the staphylococcus aureus. Opie, in concluding his paper, suggests that the experiments partly offer an explanation for the innumerable extracellular bacteria which may be found in the serum of many purulent exudates.

On the Comparative Value of the Exudates and Blood Sera obtained from Acute Infections.

A few instances will be cited here as affording examples of the activity of the body fluids and blood sera obtained from patients suffering from acute and subacute infections caused by the pyogenic bacteria.

[It must be pointed out at the commencement of these investigations that the complement was always undiluted unless otherwise stated, and was mixed with the immune body or exudate in equal proportion. This fact is of interest in view of the results obtained. The chief aim was to determine the effect of the exudate on the serum as regards phagocytosis, and therefore it was quite impossible to dilute the complement in a satisfactory manner for fixation purposes or to titrate the antigen and immune body in the mixture. These facts, however, have been referred to fully by H. R. Dean in his admirable series of papers on fixation of complement. The ten experiments cited here are sufficient to afford an illustration of certain important points which have been investigated. In each instance the bacteriology of the

[2] A. E. Wright and George Lamb: Observations bearing on the Question of the Influence which is Exerted by the Agglutinins in the Infected Organism, THE LANCET, Dec. 23rd, 1899, p. 1727.

[3] A. E. Wright and S. T. Reid: On the Possibility of Determinign the Presence or Absence of Tuberculous Infection by the Examination of the Patient's Blood and His Fluids, Proceedings of the Royal Society, Series B, vol. lxxvii., 1906.

[4] Opie: Opsonins of Inflammatory Exudates, Journal of Experimental Medicine, vol. ix., No. 5, September, 1907.

disease from which the patient was suffering is recorded. The serum was obtained from pus by suitable methods which need not be referred to; the phagocytic and hæmolytic properties were tested and contrasted with the patient's blood serum. In the majority of instances cited here the body fluids obtained from the infective focus are devoid of opsonin and complement. In one instance there was abundance of opsonin and complement, but the activity of the exudate was much less than that of the autogenous blood serum. The loss

TABLE I.

Case.	Nature of infection.	Nature of exudate	Exudate.		Immune blood serum.
			Hæmolytic power.	Phagocytic activity	Phagocytic activity.
					50 leucocytes contain—
1	Subacute abscess of arm. Staphylococcus aureus.	Serum from pus.	Complete hæmolysis.	61 : 294 staphylococci. 37 : 203 B. coli.	
2	Acute empyema. Pneumococcus.	,,	No hæmolysis.	10 : 246 B. coli. 6 : 50 staphylococci.	
3	Diffuse peritonitis; appendicitis. B. coli; pneumococcus.	,,	,,	1 : 279 B. coli. 0 : 34 pneumococci.	
4	Acute cellulitis. Diphtheroid bacillus.	,,	,,	28 : 190 diphtheroid bacillus. 6 : 100 B. coli.	
5	Acute cellulitis. Streptococcus pyogenes.	,,	,,	10 : 220 streptococcus pyogenes. 1 : 300 B. coli.	
6	Acute suppuration of amputation stump. Streptococcus pyogenes.	,,	Complete hæmolysis.	230 : 350 streptococcus pyogenes.	
7	Acute diffuse peritonitis. B. coli.	,,	None.	5 : 184 B. coli. 18 : 118 staphylococcus aureus.	
8	Perinephric abscess (subacute). Staphylococcus aureus.	,,	,,	17 : 270 staphylococcus aureus. 5 : 255 B. coli.	
9	Acute empyema. Pneumococcus.	,,	,,	0 : 35 pneumococcus. 0 : 190 B. coli.	
10	Abscess of bone. Staphylococcus aureus.	,,	,,	0 : 300 B. coli. 38 : 500 staphylococcus aureus.	

of opsonin appears to be complete and cannot in any way be regarded as a specific defect, as in these experiments and in the vast majority which have been made the body fluids were tested with the organism giving rise to the infection from which the patient was suffering, and another organism in no way related to the disease. Further points concerning the properties of sera obtained from infected tissues and the serous sacs will be dealt with subsequently. At the commencement of these investigations attempts were made to obtain the necessary information by the addition of sheep's red cells, but the results were found to be so unreliable that a sufficiently diluted hæmolytic immune body and sheep or other suitable red cells were always used both in the human and animal experiments. None of these experiments have been recorded previously, but a demonstration was given on some of the results obtained before a society of American surgeons.]

ON THE ACTIVITY OF BODY FLUIDS MET WITH IN SOME ACUTE AND CHRONIC INFECTIONS.

In some acute infections of very short duration and in certain bacterial conditions affecting the serous cavities the body fluids are found to be as potent as blood serum. A certain number of cases will be cited to illustrate these facts.

These experiments clearly demonstrate the activity of the body fluids in many acute infective processes. If we take, for example, the three cases of acute arthritis referred to in Table II. we find that the serum from the joint cavity in each case contained a large amount of opsonin and complement. In fact, the amount of opsonin in two of the cases cited is as great as in the sample of normal serum used for comparison, and equally so for bacteria other than those giving rise to the disease. Other cases of gonococcal arthritis have been examined and the joint fluid has been found to be as potent as in the case referred to in Table II.; in fact, I have no record of a case of gonococcal arthritis in which the joint fluid was poor in the protective substances for which the fluid was tested. It would also appear that exudates from gonococcal joints remain active for some time, far exceeding, both in their active properties and the length of time such activity persists, any other pyogenic bacterial infection which has been studied. This is of great importance, especially when we compare these observations with clinical facts chiefly arrived at from surgical experience. Some have urged the necessity for opening the infected joints, but it is most probable that the good results which have been obtained by operation are dependent upon the nature of the fluid in the infected joints to which I have referred, rather than to any special merit on the part of surgical interference. Even when a joint has

TABLE II.*

Case.	Nature of infection.	Nature of exudate.	Exudate.		Normal blood serum.
			Hæmolytic power.	Phagocytic activity.	
1	Carbuncle. Staphylococcus aureus.	Serum obtained from cupping carbuncle.	Complete hæmolysis.	114 : 243 B. coli. 35 : 141 staphylococcus aureus.	
2	Acute arthritis. Gonococcus.	Serum from joint cavity.	,,	184 : 190 B. coli. 90 : 87 staphylococcus aureus.	
3	Acute arthritis. Staphylococcus aureus.	,,	,,	88 : 180 staphylococcus aureus.	
4	Acute arthritis. Staphylococcus aureus. (Very slight growth obtained.)	,,	,,	156 : 194 B. coli. 104 : 188 staphylococcus aureus.	
5	Acute abscess. Staphylococcus albus.	Serum from pus.	,,	100 : 143 autogenous culture of staphylococcus albus.	
6	Acute erysipelas bleb. Sterile.	Serum from bleb.	,,	288 : 220 B. coli.	
7	Acute abscess. Streptococcus pyogenes.	Serum from pus.	Incomplete hæmolysis.	50 : 255 B. coli.	
8	Chronic abscess. Staphylococcus aureus.	,,	Complete hæmolysis.	116 : 210 B. coli. 103 : 267 staphylococcus aureus.	
9	Subacute abscess of breast. Staphylococcus citreus.	,,	,,	174 : 184 staphylococcus aureus. 88 : 152 B. coli.	
10	Acute abscess. Streptococcus pyogenes.	,,	,,	36 : 85 staphylococcus aureus. 48 : 130 B. coli.	

With very few exceptions the entire phagocytic counts in the whole of these investigations were made by me.

been opened and tension relieved we are not dealing with an infected fluid such as usually occurs with the common pyogenic bacteria, but with a serum as potent as blood serum. A comparison of the bacteriological aspects of body fluids with facts and theories derived from clinical experience will be dealt with, however, at the conclusion of these investigations. In acute cases other than the gonococcal the period of activity of the body fluids is usually of short duration, as can be readily seen by referring to the experiments cited in the various tables, which afford an explanation of the bad results which may occur so readily with other acute bacterial infections.

Another case of arthritis secondary to an acute bone lesion caused by the staphylococcus aureus is of great interest. The joint fluid when planted on suitable media gave a very poor growth of the staphylococcus aureus—only a few colonies developed. The infected fluid contained abundance of complement and opsonin not only for the staphylococcus aureus which was the cause of the disease, but also for the bacillus coli. In this case complete recovery ensued, although the

joint cavity was closed directly the majority of the infected fluid had been removed. The exudate from large cutaneous blebs was examined from a case of erysipelas and found to be sterile and to possess a full opsonic content for bacteria other than those which give rise to erysipelas.

The last case which will be referred to under this group was a subacute tissue abscess due to the staphylococcus citreus. The serum obtained from the pus contained abundance of complement and opsonin, but the phagocytic activity of the tissue serum was far greater for a staphylococcus than for the bacillus coli.

Although only a few experiments out of the total number completed have been cited to illustrate the activity which tissue sera may possess, yet they are sufficient to show that the body fluids which contain complement also contain opsonin, and the opsonin is present for bacteria other than those which give rise to the disease from which the patient is known to be suffering.

EFFECTS ON THE BODY FLUIDS OF VARYING DEGREES OF TEMPERATURE AND ON THE RELATIVE ALKALINITY OF THESE EXUDATES.

When the body fluids are heated at varying degrees of temperature from 55° C. up to 60° C. considerable alteration of the physical properties of these fluids is produced. Joint fluid containing abundance of protective substances, after exposure to a temperature of 59° C. for 15–20 minutes, is rendered so thick that it is impossible to work with satisfactorily. Fluid from the serous sacs in the early stages of inflammation is usually rendered very turbid by heat, and the turbidity can be removed by centrifugalisation. Serum from streptococcal pus is frequently blood-stained, and the effect of exposing it to a temperature of 57° C. for half an hour, or some corresponding temperature, may produce considerable turbidity which can be cleared to some extent by centrifugalisation, just as in the same way blood obtained after death may be similarly affected by exposure to heat owing to the effects of hæmolysis.

Complete records were made in the majority of instances of the appearances of the body fluids when they were first submitted to examination and the effect of heating them to destroy complement. The majority of hæmolytic effusions were due to the streptococci, and that the streptococci may be regarded as the cause of this hæmolysis, in many instances, is rendered probable owing to the fact that the pneumococcal exudates were free from blood-tingeing in every instance without exception. The pneumococcal and streptococcal exudates gave a distinct deposit on heating, which in some cases was considerable, but this alteration was especially common with the pneumococcal specimens. In the majority of cases the effect of heat sufficient to destroy complement produced an inert fluid.

THE RELATIVE ALKALINITY.

That an altered reaction would affect phagocytosis is what one would expect; an exudate which has a reaction of N/300 to litmus as compared with the normal N/35 might have considerably less phagocytic property owing to this alteration in the reaction, but unfortunately it is difficult to prove how far the diminished phagocytic activity is due to the altered reaction, because exudates which are rich in protective substances have a reaction which approximates to that of blood serum, while exudates with a very slight degree of relative alkalinity are usually inert, but there is ample evidence that the low phagocytic property of such an exudate is not dependent upon its reaction. The effect of heat may be to increase the relative alkalinity as compared with the unheated fluid, yet no alteration will be found in the phagocytic results. Other experiments carried out with the body fluids and blood serum would suggest that the alteration in the relative alkalinity owing to infection is not the important factor in the phagocytic value of these sera, although it probably plays some part.

In these experiments the estimation of the relative alkalinity of the exudates was undertaken chiefly for the purpose of ascertaining whether an abnormal reaction, as compared with blood serum, had a direct influence on phagocytosis. It must be obvious that no attempt was made to gauge the absolute reaction of the various exudates; the relative values are alone required. For this reason only two simple methods were employed in all these investigations, but as they were carefully controlled and were constantly used the results are sufficiently accurate for the purpose. Of the two methods employed, Wright's and the methyl orange reaction, the former is far more satisfactory for this line of investigation. The objections which have been raised to these methods in determining the alkalinity of the blood do not concern us here, but in testing inflammatory exudates which are often coloured it is necessary to carry out the observations in large numbers day by day so that the eye can be trained to detect slight alterations of colour. In Wright's method the alkalinity of blood serum is estimated by mixing serum and an equal volume of diluted normal sulphuric acid and testing the result on carefully sensitised litmus paper. The methyl orange test was carried out in a similar manner to Wright's except that methyl orange is used as the indicator. While normal blood serum by Wright's method has a value which may be expressed by N/35, the same serum to methyl orange is represented by N/8.

In all these experiments the inflammatory exudates were freed from solid matter in suspension by high-speed centrifugalisation, the fluid portion obtained was divided so that one part could be heated to destroy any complement that might be present, while another portion was in some instances boiled from five to ten minutes. The turbidity which ensued on boiling or heating was removed when possible by centrifugalisation. The various samples were then titrated with normal sulphuric acid and the results tested with litmus paper, and when possible with methyl orange. The abnormal colour of some samples of exudates was such that the latter indicator could not always be employed.

Every specimen of pus or inflammatory exudate examined was found to be relatively alkaline, although the degrees of alkalinity as measured by the methods employed were often feeble. The most constant results were noted with tuberculous "pus," which in every instance without exception reacted approximately to blood serum. The range of variation was from N/30 to N/50. In the infections produced by the pyogenic bacteria a diminution of this relative alkalinity is an almost constant result.

In the early stages of acute infection of the serous cavities the reaction of the infected fluid approximates to that of normal blood serum, as is well shown in a case of acute arthritis in which the infected fluid was found to have a reaction of N/30 to litmus, but the exudates rapidly acquire abnormal reaction. In three cases of peritonitis operated upon within 24 hours of onset, the samples of free peritoneal fluid showed reactions of N/45, N/50, and N/60, respectively. In a very acute abscess of arm due to the staphylococcus aureus the infected exudate had a reaction of N/120, but when mixed and incubated with normal blood serum did not reduce the phagocytic power of this serum for the staphylococcus aureus.

To what degree the feeble phagocytic value of exudates is due to a relative diminution of alkalinity is difficult to decide, but the evidence obtained by the methods employed would suggest that this factor is not of great importance. That an exudate with a relative alkalinity much less than normal, when mixed with blood serum of known phagocytic value and with a normal reaction to litmus, may fail to affect the phagocytic value of this serum, goes far to prove the correctness of this statement, and also the relative alkalinity of an exudate may be considerably reduced, but the phagocytic activity is similar to normal blood serum.

Attention must also be directed to the fact that an infected body fluid may have no phagocytic property of its own, and yet the relative alkalinity is very slightly outside the limits of normal blood serum.

In some specimens of pus examined the relative alkalinity is considerably reduced. In one instance of an aureus infection the result was represented by N/400 to litmus, but this was by far the most abnormal specimen met with in these investigations; as a rule, exudates produced by the pyogenic bacteria vary from N/80 to N/200.

In conclusion, it is necessary to emphasise that by heating these body fluids so as to deprive them of complement a considerable alteration in the reaction to litmus, as tested by Wright's method, may occur.

ON THE EFFECT OF TREATING BLOOD SERUM WITH BODY FLUIDS OBTAINED FROM VARIOUS ACUTE AND CHRONIC INFECTIVE PROCESSES CAUSED BY PYOGENIC BACTERIA.

Wright and his fellow-worker Douglas have introduced methods of recent years for the study of the blood and body fluids of man which had been impossible previous to their

work. Wright and Douglas in 1903, and Wright and Reid in 1906, showed in the papers previously referred to that the body fluids may be very poor in protective substances as compared with blood serum, and they regarded a comparison of the opsonic contents of blood serum and of the body fluids as of value in the diagnosis of bacterial infection.

Simon,[5] however, in 1907, describes some preliminary experiments which in his opinion suggest that in some instances a low opsonic index may be due to inhibitory substances in the blood stream. He found that the addition of certain exudates to normal serum caused a considerable drop in the phagocytic value of the blood serum which he regarded as due to the presence of inhibitory substances. He only cites a few experiments, however, to illustrate this inhibitory action. In a case of empyema Simon estimated the phagocytic power of the patient's blood by his method as 1·11, while that of the exudate was 0·16, and he found that the admixture of serum and exudate reduced the phagocytic value of normal serum by some 80 per cent. In this experiment, however, it is not stated what bacteria were used nor any facts concerning the technique. This contribution of Simon offers the suggestion that the low opsonic value of body fluids may be due to inhibitory substances rather than to paucity of opsonins, and that the same explanation can be given for the results obtained when some exudates and blood sera are mixed together, or even when different samples of blood sera interact.

Golla,[6] in 1911, made some experiments on phagocytosis with carborundum and bacteria, and came to the conclusion that the variation in phagocytosis for carborundum and bacteria can be explained by the "variations in the protective power of the serum for leucocytes against the toxic antiphagocytic action of bacterial emulsions which are present in both cases." In other words, he suggests that the variations in phagocytosis in such experiments are really due to aggressins.

A certain number of experiments have already been cited which show the paucity of opsonin and complement in the body fluids, but the experiments which have been made on the effect of exudates on blood sera and the general action of these exudates obtained from various sources will be described at some length, although only a limited number of the actual experiments will be referred to. Infections in man with almost all the well-known pyogenic bacteria have been subjected to investigation, and it may be as well to state at the outset that any exudate may be found to possess the active properties about to be described.

EXPERIMENT I.—*Acute Subcutaneous Abscess due to the Staphylococcus Aureus.*

Method employed.	Result. Phagocytosis. Number of leucocytes counted.	Number of bacteria engulfed. Staphylococcus aureus.	B. coli.
1. Normal blood serum + saline.	50	303 cocci with 6 blanks.	244 bacilli with 0 blanks.
2. Exudate + saline.	50	5 cocci with 46 blanks.	3 bacilli with 47 blanks.
3. Normal blood serum + exudate.	50	64 cocci with 36 blanks.	11 bacilli with 41 blanks.

The facts which are made obvious in this experiment are the absence of opsonic action in the exudate both for the causative organism and one quite foreign to the disease; that when normal blood serum and this exudate were incubated together the phagocytic activity of the blood serum was very considerably reduced for both organisms, but more especially for the bacillus. This shows that the complete absence of opsonic action of this exudate is not the important fact, but the anti-phagocytic property which such a fluid may have on normal blood serum for pyogenic bacteria.

[5] Charles E. Simon: A Further Contribution to the Knowledge of the Opsonins, Journal of Experimental Medicine, vol. ix., No. 5, September, 1907.

[6] F. Golla: The Influence of Bacterial Emulsions on Phagocytosis, Quarterly Journal of Medicine, April, 1911, vol. iv., No. 15.

EXPERIMENT II.—*Acute Subcutaneous Abscess and Lymphangitis due to the Staphylococcus Aureus.*

Method employed.	Result. Hæmolysis.	Phagocytosis. Number of leucocytes counted.	Number of bacteria engulfed. Staphylococcus aureus.	B. coli.
1. Normal blood serum + saline.	Complete hæmolysis.	50	240 cocci with 10 blanks.	229 bacilli with 1 blank.
2. Exudate + saline.	None.	50	61 cocci with 37 blanks.	21 bacilli with 35 blanks.
3. Autogenous blood serum + saline.	Complete hæmolysis.	50	294 cocci with 8 blanks.	203 bacilli with 4 blanks.
4. Autogenous blood serum + exudate.	Complete hæmolysis, but much delayed.	50	139 cocci with 22 blanks.	237 bacilli with 1 blank.
5. Normal blood serum + exudate.	Complete hæmolysis, but much delayed.	50	132 cocci with 18 blanks.	200 bacilli with 2 blanks.

This experiment is of exceptional interest. The effect of the exudate on the patient's blood serum was tested and the result contrasted with the action on normal blood serum, and, as in the preceding case, the specific organism was used for the tests and also one having no relation to the disease. It will be seen that the exudate had little power to incite phagocytosis, and is unable to act as complement, while in the presence of normal serum or the autogenous blood serum it caused no effect as regards foreign bacteria, but considerably

EXPERIMENT II.A.—*Acute Subcutaneous Abscess due to the Staphylococcus Albus.*

Method employed.	Result. Hæmolysis.	Phagocytosis. Number of leucocytes counted.	Number of bacteria engulfed. Staphylococcus albus.
1. Normal blood serum + saline.	Complete hæmolysis.	50	143 cocci.
2. Exudate + saline.	,,	50	100 ,,
3. Normal blood serum + exudate.	,,	50	187 ,,

EXPERIMENT III.—*Acute Arthritis due to the Staphylococcus Aureus (Very Limited Growth of Bacteria Obtained).*

Method employed.	Result. Hæmolysis.	Phagocytosis. Number of leucocytes counted.	Number of bacteria engulfed. Staphylococcus aureus.	B. coli.
1. Normal blood serum + saline.	Complete hæmolysis.	50	188 cocci with 9 blanks.	194 bacilli with 6 blanks.
2. Exudate + saline.	,,	50	164 cocci with 10 blanks.	156 bacilli with 5 blanks.
3. Exudate + normal blood serum.	,,	50	257 cocci with 6 blanks.	96 bacilli with 2 blanks.

reduced the phagocytic activity of both samples of blood serum for its own organism.

That the greatly reduced phagocytosis just referred to in the two cases of infection caused by the staphylococcus aureus is not due to simple dilution of the blood serum with exudate is well shown in these two experiments (IIA. and III.).

In this experiment the joint fluid had phagocytic properties not far short of normal blood serum, and when mixed with the serum greatly increased the phagocytic activity of it not only for the staphylococcus aureus, but also for a foreign organism. It will also be noted that the joint fluid contained abundance of complement, and that only a very limited growth of the coccus was obtained, and that the case made a rapid and complete recovery as is only to be expected from the nature of the exudate. In this patient the wound was closed after most of the joint fluid had been allowed to escape.

The aim of Bier's congestion treatment is to obtain body fluids similar to active blood serum, although it may take some time to occur as shown by this experiment.

EXPERIMENT IV.—*Acute Abscess of Breast Due to the Staphylococcus Aureus. Exudate Examined Before and After Cupping.*

Method employed.	Result.			
	Hæmolysis.	Phagocytosis.		
		Number of leucocytes counted.	Number of bacteria engulfed.	
			Staphylococcus aureus.	B. coli.
1. Normal blood serum + saline.	Complete hæmolysis.	50	167 cocci with 10 blanks.	222 bacilli with 2 blanks.
2. Immune exudate + saline (before cupping).	None.	50	12 cocci with 48 blanks.	1 bacillus with 49 blanks.
3. Immune exudate + saline (after cupping).	,,	50	14 cocci with 45 blanks.	3 bacilli with 48 blanks.
4. Normal blood serum + immune exudate (before cupping).	Partial hæmolysis.	50	34 cocci with 42 blanks.	29 bacilli with 32 blanks.
5. Normal blood serum + immune exudate (after cupping).	,,	50	32 cocci with 42 blanks.	—

In this case the exudate was devoid of opsonin and complement both before and after the first cupping, and when mixed with normal blood serum it removed almost completely its entire opsonic content and reduced the hæmolytic complement considerably. The complete withdrawal of opsonin from blood serum in the presence of a body fluid may not necessarily be associated with similar reduction in complement, as is shown below.

EXPERIMENT V.—*Acute Abscess due to the Staphylococcus Aureus.*

Method employed.	Result.		
	Hæmolysis.	Phagocytosis.	
		Number of leucocytes counted.	Number of bacteria engulfed.
			Staphylococcus aureus.
1. Normal blood serum + saline.	Complete hæmolysis.	50	100 cocci with 10 blanks.
2. Immune exudate + saline.	None.	50	27 cocci with 39 blanks.
3. Immune exudate + normal blood serum.	Incomplete hæmolysis much delayed.	50	7 cocci with 49 blanks.

One of the most striking experiments concerning the question of inhibitory substances occurred in the case of a perinephric abscess due to the staphylococcus aureus of some weeks' standing. Most facts of interest and of importance are illustrated by this experiment; the apparently inert exudate when heated to 60° C. for ten minutes and then mixed with normal blood serum effected very considerable reduction in the opsonic activity of normal blood serum for its own organism and one in no way related to it.

EXPERIMENT VI.—*Perinephric Abscess of Some Weeks' Duration Due to the Staphylococcus Aureus.*

Method employed.	Result.			
	Hæmolysis.	Phagocytosis.		
		Number of leucocytes counted.	Number of bacteria engulfed.	
			Staphylococcus aureus.	B. coli.
1. Immune exudate + saline.	None.	50	17 cocci with 45 blanks.	5 bacilli with 47 blanks.
2. Normal blood serum + saline.	Complete hæmolysis.	50	271 cocci with 1 blank.	255 bacilli with 0 blanks.
3. Immune exudate (after heating) + normal blood serum.	Trace.	50	37 cocci with 42 blanks.	8 bacilli with 44 blanks.

In some instances the addition of immune body to blood serum and exudate considerably increases the effect produced—in fact, only a trace of phagocytosis may occur. In an experiment of this kind the immune body and exudate were obtained from the same case, and that the final reduction in phagocytosis is not a question of dilution of the unheated blood serum will be shown from experiments conducted on similar lines.

EXPERIMENT VII.—*Acute Pyæmic Abscess of Leg due to the Staphylococcus Aureus.*

Method employed.	Result.			
	Hæmolysis.	Phagocytosis.		
		Number of leucocytes counted.	Number of bacteria engulfed.	
			Staphylococcus aureus.	B. coli.
1. Normal blood serum + saline.	Complete hæmolysis.	50	490	278
2. Normal blood serum + heated exudate.	,,	50	126	90
3. Normal blood serum + I.B. + heated exudate.	Distinct hæmolysis only.	50	48	9

In a case of meningitis due to the pneumococcus the cerebro-spinal fluid showed masses of diplococci, and for this reason it was employed for these investigations, as cerebro-spinal fluid never contains the abundance of cells met with in ordinary tissue exudates and is normally free from the active properties which belong to the other body fluids. This exudate was devoid of opsonin for a foreign organism and was free from complement, while it had a very decided action on the patient's blood serum and to a less extent on normal serum, as can be readily seen by referring to Table VIII.

This experiment affords an illustration of the properties an exudate may acquire even the cerebro-spinal fluid.

EXPERIMENT VIII.—*Acute Meningitis due to the Pneumococcus.*

Method employed.	Result.		
	Hæmolysis.	Phagocytosis.	
		Number of leucocytes counted.	Number of bacteria engulfed.
			B. coli.
1. Immune blood serum + saline.	Complete hæmolysis.	50	168 bacilli with 2 blanks.
2. Normal blood serum + saline.	,,	50	222 bacilli with 0 blanks.
3. Exudate + saline.	None.	50	6 bacilli with 44 blanks.
4. Exudate + I.S.	Incomplete hæmolysis.	50	31 bacilli with 29 blanks.
5. Exudate + I.S. (heated).	,,	50	5 bacilli with 45 blanks.
6. Exudate + N.S.	Complete hæmolysis.	50	57 bacilli with 15 blanks.
7. Exudate + N.S. (heated).	,,	50	59 bacilli with 18 blanks.

In a case of acute empyema which followed the aspiration of blood from the pleural cavity an exudate was obtained which possessed active properties for the micro-organisms cultivated from the pus. The phagocytosis was reduced to a minimum when the exudate acted with normal serum, but no apparent effect occurred in the hæmolytic mixture as hæmolysis was complete in each case and took place immediately.

EXPERIMENT IX.—*Acute Empyema. The Streptococcus Pyogenes and the Staphylococcus Aureus Cultivated from the Pus.*

Method employed.	Result.			
	Hæmolysis.	Phagocytosis.		
		Number of leucocytes counted.	Number of bacteria engulfed.	
			Streptococcus.	Staphylococcus aureus.
1. Normal blood serum + saline.	Complete hæmolysis.	50	100	303
2. Exudate + saline.	None.	50	2	5
3. Exudate + N.S.	Complete hæmolysis.	50	10	18

In a case of appendicitis, which developed a large abscess of the abdominal wall the exudate was extremely potent. It was entirely devoid of phagocytic properties and had a considerable effect on the activity of normal serum.

EXPERIMENT X.—*Appendicitis. Abdominal Abscess due to the Bacillus Coli.*

Method employed.	Result.		
	Hæmolysis.	Phagocytosis.	
		Number of leucocytes counted.	Number of bacteria engulfed.
			Bacillus coli.
1. Normal blood serum + saline.	Complete hæmolysis.	50	206 bacilli with 3 blanks.
2. Exudate + saline.	None.	50	0
3. Exudate + N.S.	Complete hæmolysis.	50	22 bacilli with 34 blanks.
4. Exudate + N.S. (heated).	,,	50	51 bacilli with 18 blanks.

Pneumococcal infections in one respect are unsatisfactory for investigations of this kind. In my experience it is extremely rare to obtain either *in vitro* or *in vivo* any degree of phagocytosis with the pathogenic pneumococci. Flexner[7] also lays stress on the slight phagocytosis which occurs with the pneumococci. Mennes[8] considered that avirulent pneumococci are taken up by the leucocytes, while the virulent are not. Many observers have directed attention to the causes by which virulent pneumococci resist phagocytic ingestion. Marchand[9] found that virulent pneumococci killed by heat or by chemicals were not subjected to phagocytosis, and Rosenow[10] has attributed this resistance of virulent pneumococci to a substance which he believes is present in the virulent and not in the avirulent bacteria, and which may be separated by autolysis. Tchistovitch and Jourevitch[11] state that in their opinion virulent pneumococci may be rendered capable of phagocytic ingestion by washing in saline. It would thus appear that most observers are agreed as to the resistance offered to phagocytosis by pneumococci obtained from an acute infection.

In a case of acute pneumococcal infection of the pleura several items of interest occurred, and there was a certain degree of phagocytosis of the pneumococcus. In this experiment the exudate reduced the phagocytic activity of the patient's serum for the pneumococcus to a minimum, while there was a certain degree of phagocytosis for the foreign organism, the bacillus coli. The immune body, saline and normal serum produced active phagocytosis, while in the experiments in which the exudate acted with the immune body and normal serum instead of saline, there was hardly any phagocytosis for either organism, and hæmolysis was similarly affected in the presence of the exudate.

EXPERIMENT XI.—*Acute Empyema due to the Pneumococcus.*

Method employed.	Result.			
	Hæmolysis.	Phagocytosis.		
		Number of leucocytes counted.	Number of bacteria engulfed.	
			Pneumococcus.	B. coli.
1. Immune blood serum + saline.	Complete hæmolysis.	50	35	190
2. Exudate + saline.	None.	50	0	0
3. Exudate + I.S. (heated).	Slight hæmolysis.	50	7	45
4. I.B. + N.S. + exudate (heated).	,,	50	7	3
5. I.B. + N.S. + saline.	Complete hæmolysis.	50	40	150

TO COMPARE THE IMMEDIATE ACTION OF AN EXUDATE ON BLOOD SERUM WITH THAT PRODUCED AFTER INCUBATION AT BODY TEMPERATURE.

It was thought necessary to ascertain whether the reduced phagocytosis which had been proved to occur when blood serum was incubated with an exudate ever took place spontaneously. In my experience, as a rule, no decided alteration occurs until the two fluids have been in contact for a definite period of time, although one example will be cited to show that this phenomenon may occur spontaneously. Two samples of exudate and blood serum were mixed together, but in one case the action was allowed to continue for one hour at 37° C., while in the other as soon as the exudate and blood serum had been thoroughly mixed, a sample was taken for the various tests which were carried out immediately. The experiments in which this spontaneous action was demonstrated concerned an empyema of some weeks' duration.

[7] Simon Flexner: Introduction to a paper by Dr. Lamar, Chemo-immunological Studies on Localised Infections, Journal of Experimental Medicine, vol. xiii., No. 1, 1911.
[8] Mennes. Quoted by Lamar.
[9] Marchand: Archives de Médecine Expérimentale et d'Anatomie Pathologique, 1898, vol. x., p. 253.
[10] Rosenow: Journal of Infectious Diseases, 1907, vol. iv., p. 285.
[11] Tchistovitch and Jourevitch. Quoted by Lamar.

EXPERIMENT XII.—*Empyema due to the Pneumococcus.*

Method employed.	Result. Hæmolysis.	Phagocytosis. Number of leucocytes counted.	Number of bacteria engulfed. Staphylococcus aureus.
1. Immune blood serum + saline.	Complete hæmolysis.	50	175
2. Exudate + saline.	None.	50	6
3. Exudate + I.S. (one hour at 37° C.).	Complete hæmolysis.	50	29
4. Exudate + I.S. (immediate action).	,,	50	75

EFFECT OF BOILED EXUDATES ON BLOOD SERUM.

Only a few experiments have been made with boiled exudates obtained from a human source, although a considerable amount of work has been done on this subject with exudates produced experimentally in animals, as will be described subsequently. The exudates which had been prepared for various purposes were boiled for ten minutes and then centrifugalised at high speed until a watery solution was obtained which was employed for the phagocytic and other experiments, but a far greater degree of phagocytosis occurred than with the unheated exudates or exudates heated to 60° C. for a period of 15 minutes. In each case a definite reduction in the degree of phagocytosis was met with as contrasted with the mixture of blood serum and saline with the bacteria employed.

EXPERIMENT XIII.—*Mammary Abscess due to the Streptococcus Pyogenes and the Staphylococcus Aureus.*

Method employed.	Result. Hæmolysis.	Phagocytosis. Number of leucocytes counted.	Number of bacteria engulfed. Staphylococcus aureus.	Streptococcus pyogenes.
1. Normal blood serum + saline.	Complete hæmolysis.	50	493	311
2. Normal blood serum + heated exudate.	,,	50	126	44
3. Normal blood serum + boiled exudate.	,,	50	350	230

EXPERIMENT XIV.—*Acute Subcutaneous Abscess due to the Staphylococcus Aureus.*

Method employed.	Result. Hæmolysis.	Phagocytosis. Number of leucocytes counted.	Number of bacteria engulfed. Staphylococcus aureus.	B. coli.
1. Normal blood serum + saline.	Complete hæmolysis.	50	490	278
2. Normal blood serum + heated exudate.	,,	50	126	90
3. Normal blood serum + boiled exudate.	,,	50	235	150

THE PRESENCE AND INTENSITY OF SYPHILIS IN THE PAST AND AT THE PRESENT DAY.[1]

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THE poem of Hieronymus Fracastorius which has given its name to the group of diseases due to a specific infection which the society has decided to discuss was published at Verona in 1530. There was a copy of this rare book in the library of Dr. Mead in Great Ormond-street where the Hospital for Sick Children now stands, and he one day showed it to Charles Peters, of Christ Church, afterwards a Radcliffe travelling fellow and physician to St. George's Hospital, to whom he had previously commended the study of the poem. Peters in 1720 published a handsome reprint of the poem with a dedication to Mead. Fracastorius was a physician of Verona, of large practice and great learning, highly esteemed in his own time for his knowledge both of medicine and of literature.

Lucretius had first shown to the Romans that poetry might set forth a complete system of philosophy, and that the whole order of nature might be thoroughly and splendidly discussed in verse. He saw the difficulty of the task—

> Nec me animi fallit Graiorum obscura reperta
> Difficile inlustrare Latinis versibus esse,[2]

yet accomplished it. Virgil, following him and meditating on his achievement, applied poetry to a simpler purpose—the exposition of the husbandman's art, and without losing sight of its details showed their poetical as well as their practical aspect, and thus did he—

> angustis hunc addere rebus honorem.

When the revival of learning came and all men were eager to show the goodness of their Latin, nothing seemed more natural than to write on every art and science as nearly in the manner of Virgil as was possible.

Dr. Samuel Parr, whom our great-grandfathers believed to have a good knowledge of Latin, thought the "Syphilis sive Morbus Gallicus" of Fracastorius next in merit to the Georgics among such poems of the arts and sciences. The poem is in three books and contains 1344 lines. Its first lines sum up the generally received history of the origin of the disease:—

> Qui casus rerum varii, quae semina morbum
> Insuetum, nec longa ulli per secula visum
> Attulerint: nostra qui tempestate per omnem
> Europam, partimque Asiæ, Libyæque per urbes
> Saevit, in Latium vero per tristia bella
> Gallorum irrupit, nomenque a gente recepit.

The disease was unknown before, nothing like it had been seen, in the writer's own time it had raged through all Europe and part of Asia and the cities of Africa, and had come into Italy through the grievous French wars and so received its name from that nation. The poet asks the muse of Astronomy, as the goddess best versed in the effects of the stars and other physical forces, how the disease has arisen:—

> Dic Dea, quae causae nobis post secula tanta
> Insolitam perperere luem? num tempere ab illo
> Vecta mari occiduo nostrum pervenit in orbem,
> Ex quo lecta manus solvens de littore Ibero
> Ausa fretum tentare, vagique; incognita ponti est
> Aequora, et orbe alio positas perquirere terras?
> Illic nanque ferunt aeterna labe per omnes,
> Id morbi regnare urbes, passimque vagari
> Perpetuo coeli vitio, atque ignoscere paucis.

What is the cause of this before unknown plague? Was it borne to our world across the western sea? when from Spanish shore men dared to cross the ocean and to seek for lands in another world? For there this disease is said to be endemic, so that few escape it. The poet enlarges on the obscurity of the origin of disease in fine hexameters, but in a way that reminds one of Johnson's remark on a passage of Milton's "Lycidas": "How one god asks another god what is become of Lycidas, and how neither god can tell." The second book deals with the treatment of the disease.

[1] A paper read at the opening of a discussion on Syphilis at a meeting of Fellows of the Royal Society of Medicine on June 10th, 1912.

[2] De Rerum Natura, I., 136. Nor does my mind fail to perceive how hard it is to make clear in Latin verses the dark discoveries of the Greeks (Munro).

The third contains the incident which gives it its name. Siphilus, a shepherd proud of the flocks of King Alcithous, which he is feeding, blasphemes the Sungod, and the Sungod in revenge darts the disease forth which attacks the shepherd. He was to be sacrificed, but is saved by the intervention of Juno. The poem ends with lines in praise of guaiacum and of Peter Bembo, to whom the three books are dedicated by the learned and observant Fracastorius.

The poem is contemporary evidence of the prevalence in its time of the hypothesis of the then recent origin of syphilis. It was believed, as Dr. Freind points out in his history of Physic,[3] to have been imported by Columbus from the West Indies in 1492, and to have first attracted attention at the siege of Naples in 1493–4, when it became diffused in the French army.

Is this account true? Does it show that syphilis was unknown in Europe before the end of the fifteenth century? That it was imported from America cannot be asserted without much more evidence than is generally set forth, and the statement may probably be an inference from the date of the supposed first appearance of the disease in the Old World. On this point I may quote a letter which I received from Professor G. Elliot Smith on June 3rd, 1912:—

> Since last I saw you I have seen Dr. Ales Hrdlicka, anthropologist to the Smithsonian Institution in Washington and its delegate to the Americanist Congress in London. His evidence concerning syphilis in America is so nearly similar to my experience in Egypt that I send you notes upon his statements, which he gives full permission for you to use as you may think fit. Many thousands of skeletons from all parts of America (North and South) have passed through his hands, but he has not seen a single case of syphilis (or lesion which competent pathologists will admit to be syphilitic) in any one bone which is certainly pre-Columbian. That there was no immunity to the disease is shown by the fearful havoc worked by it among Indians in post-Columbian times. One Indian cemetery (probably early eighteenth century) in Kentucky had over 70 per cent. of the skeletons severely damaged by undoubted syphilis. Moreover, the Indians (who have remedies for all their own diseases and an intimate knowledge of their symptoms) have no remedy for syphilis and are terrified by it in their impotence to deal with it.

The examination of mediæval and classical writers on medicine has hitherto yielded very indefinite results. The endeavour, for example, of Francisco Lopez de Villalobos in 1498 to identify syphilis with the condition named saphati by Avicenna in the fourth book of the Kanûn is altogether unconvincing, and the same may be said of the many other comparisons collected by Dr. Iwan Bloch, of Berlin, in his "Ursprung der Syphilis" (Jena, 1901). One difficulty of the identification, of course, is that of distinguishing in words some of the commonest lesions of syphilis from those belonging to other diseases. Most of us have known cases in which the rash of small-pox has been taken for a specific eruption, and the patient remitted to the skin department of a general hospital, and I can easily believe that patients whose rash is due to syphilis may sometimes arrive at the admission room of a small-pox hospital.

The very terms *la grosse vérole* and *la petite vérole* and their English equivalents sufficiently indicate the resemblances and show how difficult must be the precise discovery of syphilis among the vast collections of phrases of the mediæval writers, whether European or Oriental. The same applies to the classical authors, both of medicine and of general literature.

No objection on the score of propriety would have deterred Petronius in the time of Nero from mentioning the subject. One dialogue at least of Lucian might have contained some informing allusion. The subjects of the "De XII Cæsaribus" of Suetonius might easily have given one or more examples of the disease, while had syphilis been known the eighth satire of Juvenal, "Stemmata quid faciunt?" would almost certainly have contained some allusion to physical deformity or heredity connected with syphilis.

To go to more remote times. Terence, if syphilis had existed in Rome under the Republic, would probably have introduced into the dissolute scenes which his spectators enjoyed some allusions such as those which pleased English playgoers in the Restoration period. No certain references to syphilis are to be found in the general Greek or Latin literature.

To turn from the descriptions of books to the remains of men, Egypt offers a wide field of observation in which indications of the presence of syphilis in the ancient world might be discoverable. By the kindness of Professor Elliot Smith and of Professor Wahby I was allowed in two visits to Egypt to look at the large collection of partly broken-up mummies and of separate bones in the rooms adjoining the museum of the Egyptian Medical School in Cairo, and being familiar with the fine collection of bones at St. Bartholomew's Hospital, I was not incompetent to make observations on the subject of the presence or absence of syphilitic lesions. I did not see one specimen. In THE LANCET of August 22nd, 1908, Professor Elliot Smith, whose opportunities of observation in Egypt have far exceeded those of all other men and who has made the fullest use of those opportunities, stated that in no case had he seen in bones, teeth, or soft parts of the many thousands of ancient Egyptians he had examined any lesions at all resembling syphilis. He mentioned that all cases described as syphilis in ancient Egyptian bones up to August 22nd, 1908, were examples of the destructive work of necrophilous beetles which had attacked the bones in the grave long after burial. In a letter which he was so good as to write to me on May 14th, 1912, and which he permits me to quote, Professor Elliot Smith says:—

> Last year I received from Nubia a skeleton of the Middle Empire period (circa 2000 B.C.) with extensive lesions of the humerus, scapula, sternum, and spinal column, which I submitted to Strangeways in Cambridge. He has made a detailed examination (with the help of Dr. Emily Morris) and written a full report for our final Nubian report, from which I quote (and you are welcome to make any use of these quotations):—
>
> Adult Nubian woman (circa 2000 B.C.) Left humerus: "Changes in the shaft present all the appearances of a syphilitic node, but might equally well have been produced by any local inflammatory condition of periosteum." "Changes in humerus and scapula closely resemble those found in syphilis; but the change in the sternum and spinal column are rather those of a severe chronic suppuration." "Although the node on the humerus closely resembles a syphilitic node and *would in a recent specimen almost certainly be diagnosed as such*, remembering that syphilis is unknown in bones of Egyptians of this date, it would be unwise to suggest that the changes are due to this disease."
>
> Last week Strangeways received another suspicious specimen from me (Egyptian: ancient Empire from Giza Pyramids); if he cares to commit himself you are at liberty to use the information he supplies.

In a later letter Professor Elliot Smith adds:—

> I have seen Strangeways, who tells me that the last specimens I sent him are almost certainly *not* syphilitic.

Thus it is clear that no undoubted syphilitic lesions have been discovered in the vast collection of human remains belonging to several thousand years which have come under the observation of so learned and accomplished an anatomist as Professor Elliot Smith.

Three most learned men have considered the question of whether there are any passages in the Greek and Latin writers of antiquity which prove syphilis to have existed in their times. Jean Astruc, professor at Montpellier, was of opinion that in the classical writings there was not the least syllable that could properly be applied to it. Dr. John Freind, in his history of physic, discusses some passages in mediæval writers with the learning which he always shows, and concludes that they do not describe appearances really due to syphilis. His remarks are the more valuable because he had read the whole of the mediæval authors and was thus familiar with the way in which the same passage with slight verbal alterations again and again appears in the pages of one, taken from those of another, without the least acknowledgment. He was also deeply read in the classical authors, and thus his conclusion that this group of diseases was not observed in mediæval or classical times is an authoritative opinion. The third physician who has considered the question with great learning, especially in the classical writings, is van Swieten. He has considered all that Astruc and Freind have said and has himself studied the ancient authors and arrives at the same conclusion as Astruc and Freind that no passages exist which can prove the Greeks, Romans, or Arabians to have been acquainted with syphilis.

The subject affords so many opportunities of illustration that it seems unlikely that the greatest linguistic attainments in Greek, Latin, and Oriental languages could do much more to discover the early prevalence of syphilis than the reading of Astruc, Freind, and van Swieten.

Our knowledge of the results of this infection has greatly increased in our own times. Thus since the last meeting of the International Medical Congress in London in 1881, the opinion has slowly been established that general paralysis and locomotor ataxy are always to be counted as manifestations of syphilis. This conclusion seems to open a new possibility of inquiry into the possible occurrence of syphilis in ancient times.

[3] II., 337.

If Galen practising in Imperial Rome had observed or had heard of the mental delusions of general paralysis, or if in any passage he had described the gait of locomotor ataxy and the sudden falling down of its subjects when they entered dark passages or otherwise ceased to see their feet, then the opinion that syphilis did not exist in early times must be altered, and those passages in classical medical writers capable of interpretation in the direction of syphilis, though insufficiently clear to be taken alone as descriptions of its symptoms, must be reconsidered, and may, some of them, become additional evidence in favour of the early prevalence of syphilis.

On the other hand, if none of the characteristic nervous affections of syphilis are discoverable in Galen the opinion that the disease did not exist in Imperial Rome or in early times will be confirmed. It was the desire to draw attention to this line of investigation which made me willing to accede to the request of the council of our society to open this discussion on syphilis, with special reference to the history of the prevalence of the disease in the past.

The late Henry Pelham, professor of ancient history at Oxford, used often to dwell in conversation on the usefulness of the study of Galen in relation to the life of Rome in the time of Marcus Aurelius, and if a scholar should arise capable of the widest illustration of Galen then the question of whether these two most prominent nervous diseases of syphilis, or any others of the same origin, existed in his time may be finally decided.

Taking without criticism the Galenic writings as they were received in the time of Linacre, I may make some few and imperfect suggestions towards such an inquiry.

Charles Victor Daremberg, who afterwards made so many contributions to the history of medicine, wrote his thesis for the degree of M.D. in Paris on Galen's knowledge of the anatomy, physiology, and pathology of the nervous system.[4] Daremberg first states what Galen knew of the nervous centres, how he dissected the brain, what he knew of its membranes, and of the cerebral surface, of the brain itself, of the pituitary body, the brain substance, and the spinal cord. He then shows how far Galen was acquainted with the cranial nerves, the spinal nerves, and the nerves of the limbs. Some notes follow on Galen's physiological notions on his experiments. The pathological part of the thesis is the least full, but Daremberg dwells upon one interesting case which Galen mentions in three separate treatises. A sophist had loss of sensation in his two last fingers and in half of his middle finger. Galen asked if he had received any blow or wound of the arm. The sophist answered that he had not. Galen then examined his spine and elicited that he had fallen from a vehicle upon a rugged stone and received the blow between the shoulders and that a violent pain followed, which in time went away and was followed by a loss of sensation which grew more and more profound as time went on. Galen thought the effect due to injury of the spinal cord, applied remedies over it, and adds, "I obtained the cure of my patient."[5] The patient was interested in his own case and raised a violent discussion between some physicians, who did not belong to the Hippocratic school and who had seen him before, and Galen. The patient wanted to know how a paralysis, of sensation only, could occur. Galen answered that movement being active it required much force to effect it, and a severe injury to abolish it, while, on the other hand, sensation being passive it disappeared under the influence of the slightest cause. They were completely satisfied with Galen's answer, but the physician and philosopher wished to put them to confusion, and asked them how they could explain a loss of the power of movement only. They were not able to do so. Galen explained that there are nerves which belong to the muscles and others which go to the skin; that when the former nerves are affected motion is abolished, when the latter, sensation. Galen demonstrates that it is possible to determine what part of the spinal cord is affected and which nerve.

The case shows very well what close attention Galen had paid to the anatomy and physiology of the nervous system, and that he had made some progress in those observations which indicate its morbid conditions. I may proceed to interrogate further Galen himself. His treatise on muscular movement shows that he had investigated and considered all the movements of several muscles, while that "De Differentiis Morborum" shows close observation of the movements of the limbs. The treatise addressed to Thrasybulus on exercise dwells upon the uses of gymnastics. These three books are perhaps sufficient to show that had Galen seen many men walking in the streets of Rome with well-marked symptoms of locomotor ataxy he could hardly have failed to mention their kind of gait as an abnormal condition. It may be added that the book "De Symptomatum Causis," which Linacre translated, shows that Galen had seen cases of spinal injury and had noticed insensibility and immobility below the seat of such injuries and that their area depended upon the level of the injury. Tremor and palpitation, general convulsion and paralysis of the whole body after an apoplectic fit—all these he had noticed. He had carefully observed the trembling due to old age and that produced by wine, and that which we should classify under the term rigor. All these may be mentioned as showing how competent he was to observe so marked a peculiarity of movement as that of locomotor ataxy.

In the treatise on the diseases of the mind and their cure, in which he gives so interesting an account of his own education, Galen deals rather with moral affections than with what we commonly call insanity, yet in the chapter on avoiding insatiability he might easily have mentioned magnificent delusions. He dwells upon the folly of luxury and of the unnecessary multiplication of riches, of garments and of ornaments, but mentions no delusions in relation to them.

The six books of commentaries on Hippocrates's "De Morbis Vulgaribus" do not contain any allusions to nervous diseases of possibly syphilitic origin, but the six books "De Locis Affectis," besides the case already mentioned, contain other allusions to conditions of the nervous system, and full discussions as to the causes and seat of pain. In these general and complicated discussions as to pain and its meaning in relation to diagnosis are there any words indicating the observation of the lightning pains of locomotor ataxia? No distinct mention of them is made. Galen had certainly not been struck by them, while his observations and commentaries are so often acute that had such pains been common in the patients of his time it is unlikely he would have overlooked them, though he might perhaps have not distinguished them from the periosteal pains with which the sixteenth, seventeenth, and eighteenth-century observers possibly confused them. The interesting discussions in the third book of the "De Locis Affectis" on affections of the brain, on convulsions, on epilepsy and vertigo, on hemicrania, on apoplexy, and on affections of the spinal cord, still further show Galen's attention to nervous disease, and suggest that he is unlikely to have seen any of the prominent nervous affections due to syphilis. When, again, he was considering the pulse of paralytics in his treatise on pulses for beginners he had another opportunity of noticing cases of ataxia had they come into his practice. The 16 books on the pulse contain some remarks bearing on the nervous system such as the passage on the pulse of paralytics,[6] and that on the effect of meningitis of the dura mater on the pulse,[7] but nothing pointing to a knowledge of syphilitic nervous disease. Nor do the books "De Crisibus" and "De Diebus Decretoriis," nor the 14 books translated by Linacre "De Medendi Methodo."

I have perhaps pursued the subject sufficiently far to show that Galen is not likely to have been familiar with any of the nervous diseases most certainly due to syphilis. The conclusion I would venture to draw, if a critical investigation of all his writings should arrive at the same result, is that syphilis did not exist in ancient Rome, if no nervous diseases due to it were seen by a physician of such keen observation and such wide experience in practice as Galen. If this be so it is credible that the period of the first appearance of the disease in Europe was in reality, as has been so often asserted, the end of the fifteenth century. That the original habitat of spirochætæ remains to be discovered is no objection to this view since at present very little is known of the history of the geographical distribution of such organisms.

I hope the society will forgive me for drawing attention in so superficial a manner to the desirability of investigating thoroughly all the remarks of Galen on nervous diseases with

[4] Exposition des Connaissances de Galien sur l'Anatomie, la Physiologie, et la Pathologie du Système Nerveux. Paris, 1841.
[5] De Locis Affectis, I., 6.
[6] De Causis Pulsuum, Book IV.
[7] De Præsagitione ex Pulsibus, Book IV.

a view to the consideration of whether the non-existence of locomotor ataxy and general paralysis in his time may not be taken as a strong confirmation of the Egyptian evidence against the existence of syphilis in ancient times in the countries surrounding the Mediterranean.

ABDOMINAL DRAINAGE IN THE TREATMENT OF PERITONITIS.

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DRAINAGE of the abdominal cavity in cases of peritonitis is supposed to serve two primary purposes: (1) the removal of noxious products; and (2) the relief of tension. Although almost universally practised, it is doubtful how far it really performs these duties. Some years ago I expressed the belief that the proceeding was unnecessary as far as the peritoneal infection was concerned and very harmful to the abdominal wall.[1] This opinion was the result of some years' observation and trial. As a house officer under the late Dr. Cullingworth I saw nearly every coeliotomy drained by means of a Keith's tube. Fluid very soon ceased to flow out and had to be removed with a pipette. On one occasion a patient suffered from extreme loss of blood owing to a slipped ligature without any appreciable amount of blood escaping from the tube. I was not favourably impressed with drainage as a means of getting rid of fluid from the abdomen. Later on, as house surgeon, I saw many cases of appendix peritonitis treated by incision and drainage and now and then a limited local lavage. The results were disheartening. One felt that the operation was almost an unnecessary disturbance of the patient. By the time I came to have charge of patients myself I had made up my mind that the source of the infection must be removed.

It seemed that the appendix in acute appendicitis was to be considered a perforated viscus, whether a macroscopic perforation existed or not. The perforation had to be treated as a perforation in any other viscus and closed. This meant removal in the case of the appendix. As I was not struck with the benefit to be derived from a drainage-tube in the abdomen I commenced to close this cavity completely in some instances. The lavage employed was as thorough as a limited incision and the retention of the intestines in the abdominal cavity would permit.

Results of appendicectomy and lavage.—No drainage, 1 cured and 4 died. Drainage, 0 cured and 1 died.

These results and those of others who tried the same procedure did not show much improvement. I then practised lavage with the intestines turned out of the abdomen through a large wound. In some cases the wound was sutured completely. In others a gauze sponge was laid in the wound, which was incompletely drawn together with a few silkworm-gut sutures; the wound was permanently sutured a few days later if the patient survived. With this treatment things seemed to improve, and I published three cases of such treatment in the Transactions of the Medical Society of London, Vol. XXII.

Results of appendicectomy, evisceration, and lavage.—No drainage, 4 cured and 4 died. Drainage, 2 cured and 6 died.

The operation of evisceration and lavage is of a more or less revolting nature, and as time went on one felt inclined to try less violent measures again. The appendix was still removed—that appeared essential to limit the infection—but simple mopping took the place of lavage. At this time Dudgeon and Sargent published their work showing that the turbid abdominal fluid formerly thought to be infective was possibly even protective. The infected area was much less wide than had been deemed. They also showed that the results were more dependent on the nature of the infection than on the operation employed or the area of apparent infection. Their work seemed to indicate that, provided the source of the infection was removed, the battle lay with the peritoneum. It strengthened me in the opinion that drainage, save in true intra-peritoneal abscess, was useless. I accordingly used abdominal drainage less and less, contenting myself with a local gauze safety valve drain in cases where there had been anything like a local collection of pus.

Results of appendicectomy, mopping.—No drainage, 22 cured and 3 died. Drainage, 5 cured and 1 died.

The results seemed to justify this course, and to-day I hardly ever use any drainage after the removal of the acute appendix, even if that organ has perforated and there is sloughed omentum.

It is remarkable that in these cases of acute appendicitis, often with much evil-smelling fluid, the wounds frequently heal by first intention, some suppurate superficially; very few suppurate sufficiently to make one anxious about the scar. On the other hand, one sometimes meets with a remarkable phenomenon. As far as the peritoneal infection is concerned, the patient progresses in a satisfactory manner; pulse and temperature fall, vomiting ceases, and food is well taken. The wound unfortunately suppurates wildly, leading in some cases to the exposure of the intestines.

Again, an even more serious condition of the wound is found, although the peritoneum is healing. The wound is noticed to be red and to discharge a thin fluid containing fat globules. The temperature is still raised and the pulse quick, but there is no vomiting, and the abdominal wall is soft. If the superficial stitches are removed the wound gapes and discloses a raw surface black and sloughing. From the wound will sometimes spread a cellulitis, and the patient dies poisoned by the absorption from the wound, but not from the peritoneum.

Such cases seem to show that there is more necessity to drain the wound than the peritoneum; this latter has such a resistance that it can conquer an infection to which the abdominal wall tissues fall an easy victim.

Sometimes the abdomen has to be reopened for secondary intra-peritoneal abscess, but it is unusual. The immediate closure of the abdominal wound is a great gain as patients are back to work in three weeks with no chance of hernia formation. I recognise that there is a difficulty in speaking of peritonitis because surgeons may differ as to what condition to call diffuse peritonitis. There is no means of rapidly finding out. With earlier operation the area of true infection will decrease, and if in the past it was possible to close an abdomen at once it will certainly be more possible in the future. Without discussing what constitutes diffuse peritonitis I maintain that one can safely close the abdomen in most cases of operation for acute appendicitis.

It has been remarked that there is a great deal of difference between a sloughed appendix and a red, swollen, and inflamed appendix. I do not think so. In both the peritoneum is infected. In the case of the sloughed appendix the inflammation has simply caused the death of the wall of the organ. A small mass of sloughed tissue is the only difference.

With perforated gastric and duodenal ulcers I have usually washed out the abdomen through a low incision, making this first and using it also to exclude appendix trouble before making the upper incision through which to suture the ulcer. After suture of the ulcer the abdomen has been closed except for a small drain to the ulcer site.

Gastric ulcer.—Results of suture, evisceration, and lavage: No drainage, 2 cured and 1 died. Drainage, 1 cured and 2 died. Suture and lavage: No drainage, 5 cured. Drainage, 1 cured.

Turning more particularly to the question of drainage of the abdomen and taking the appendix peritonitis cases, and excluding the gastric ulcers, since in these the peritoneum is for the most part merely soiled, the results are as follows:—

Appendicectomy, all cases.—No abdominal drainage, 27 cured and 11 died. Abdominal drainage, 7 cured and 8 died.

The "no drainage series" contains the more recent and therefore the more favourable cases—shorter infection period—but many of these were cases with much foul fluid in loin and pelvis. Local abscesses have been strictly excluded.

A local peritoneal abscess should of course be treated as an abscess in any other part of the body. Drainage of the peritoneal cavity is another thing. It can be considered from two points of view: (1) Is it possible to drain the cavity? and (2) Is it expedient to drain the cavity?

1. The peritoneum cannot be considered as a simple abscess cavity for the simple reason that it is full of viscera which limit the movement of fluid. This is well seen in the formation of secondary abscesses even after drainage has been

[1] Brit. Med. Jour., 1907.

employed. Evisceration was introduced because it was found impossible to cleanse the cavity by circulation of fluid while the intestines were *in situ* although a very large stream of water was employed. Even if the pelvis is full of fluid it will not flow through a tube introduced in the suprapubic region; it is partly for this reason that vaginal drainage is to be preferred to hypogastric. In those cases in which the abdomen is left full of saline and the wound merely closed with a thin gauze pad, more fluid is absorbed from the peritoneum than flows out of the wound. In cases of infection the difficulty of the passage of fluid is increased by the sticky surface produced by the peritonitis. It is quite true that ascitic fluid does flow easily from the abdomen for a time, but even here it ceases long before the cavity is empty. In such cases the fluid is present in large quantities and under considerable pressure; there is in addition no peritonitis to render the intestinal coils adhesive one to another. Any drain, though it be of the most unirritating material, soon produces adhesions that will in a few hours limit the drainage area to the immediate vicinity of the drain. This fact is made use of constantly, when there is a leak in the intestinal canal and a tube is introduced to lead the contents to the surface without the surrounding peritoneum being infected.

2. Is it expedient to drain the abdomen? If there is fluid is it necessary to get rid of it? This will depend on the operator's opinion of the fluid. Dudgeon has shown that most of this fluid is harmless, even if not protective. It may be that more harm is done in getting rid of it by sponging or other means than its characteristics warrant. Again, infection spreads by a vital process quite apart from its spread by the gravitation of foul fluid. A peritonitis can infect the whole abdomen without the presence of free fluid. In such cases drainage must be useless. The question then arises whether surgical interference is to be encouraged in those cases of peritonitis not due to a perforative lesion. There seems to be a doubt in a good many observers' minds as to whether any good is done by surgical interference; indeed, if one believes that drainage is impossible and the fluid thrown out not really harmful it is difficult to see what good the surgeon can do.

The improvement that follows the removal of an inflamed appendix, or a simple incision and the introduction of a tube, has been attributed to the relief of tension. The abdominal cavity is regarded as a tense abscess cavity. In the case of a truly localised abscess this may be true, but I do not believe that the comparison holds when the peritonitis is diffuse. In the case of an abscess the tension is due to the infiltration of the parts; in the abdomen, what tension there is must be due to muscular tension. Even in the worst cases there is often no sign of fluid under tension when the abdomen is opened, just an inflamed peritoneum.

In this connexion it must be remembered that a simple incision will not produce good results. The appendix must be removed in addition. This shows that relief of tension—even if an incision produces this effect—is of little avail by itself. In ordinary health it is doubtful if there is such a thing as intra-abdominal tension. It is by no means uncommon when opening an abdomen to find difficulty in raising the peritoneum from the underlying intestines until the air has been admitted, when the peritoneum at once rises. It is quite possible that the tension of the muscles in peritonitis is an attempt to save the intestines from pressure by drawing a tight cord as it were from the costal margin to the pelvic brim. In any case it is difficult to see how a simple incision in the muscles can have much effect on the tenseness of the abdomen; indeed, it does not, as anyone can see for himself, for the abdominal wall remains tense even after the infliction of a long wound. Again, if there was a marked fall in pressure produced by an incision the effect on the circulation would be disastrous. As a matter of fact, the blood pressure does not fall when the abdomen is opened.

The two important factors common in all modern treatment of perforative peritonitis are early operation and removal of the infecting cause.

I am sceptical if what may be termed adjuvant measures are of any practical importance; I refer to the use of purgatives and of infusion under any of its forms. I have tried the administration of purgatives both by the mouth and by direct injection into the intestine; in the latter case both salines and castor oil were employed. My experience is that the patients have turned the corner before the drugs act, unless a septic diarrhœa heralds a fatal end. The purgative acts because the bowel has recovered its tone consequent on the diminution of the poison derived from the peritoneum. The poison that paralyses the bowels lies outside the tube and not in its lumen. The diminution of the poison is brought about by the vital processes when once the source of the infection has been closed and re-infection stopped. I should say that provided the patient be in good condition when the source of infection is removed the result will be favourable no matter how extensive the peritoneal infection may be; and this without the aid of purgation or infusion.

Infusion is supposed to act in two ways; it is held by some that by causing increased activity of the kidneys it acts as a blood wash, by others it is held to have a beneficial effect by causing an outflow of fluid in the peritoneum. That infusion can cause an outpouring into the peritoneum is doubtless true, but the amount of fluid required to be taken into the circulation is great, and if fluid to any great extent is poured out into the abdominal cavity it will also be poured out into the pleura and into the lung, and cause œdema of this latter organ. There can be no doubt that the introduction of fluid into the circulation is beneficial if for no other reason than that it allays the thirst which so often troubles these people, as it troubles anyone suffering from fever and septic absorption. If fluid cannot be drunk it had best be put into the body by way of the rectum, but to think there is salvation in the adoption of this route is to commit an error. The amount of fluid that these people require is the same as is required by any other patient suffering from fever and toxæmia—neither more nor less.

I think that I have had in my time as much experience of intravenous infusion in sepsis as falls to the lot of most men. I have tried all manner of methods—large infusions, small infusions, single infusions, repeated infusions, infusions with extraction of blood, and infusions without blood-letting. My experience taught me to put no faith in this particular way of introducing fluid into the body. I never saw any more than a transient benefit accrue when it was used for the treatment of sepsis without shock or loss of blood. Even under these circumstances the amount should not exceed two pints if introduced directly into the circulation. I therefore abandoned it years ago as an adjuvant in the treatment of peritoneal sepsis. If a patient has pinched features and cold hands as a result of septic absorption infusion will do him no permanent good.

The Fowler position is good if agreeable to the patient, but that it has any real influence on the progress of the disease is to me very doubtful. If things go well there will be no fluid to drain into the pelvis, even if this fluid is harmful. If the infection gets the upper hand it does not matter much where the fluid drains to. For some people the whole conception of the treatment of peritonitis seems to be based on the assumption that the spread of peritonitis is due to the gravitation of foul fluid: no account is taken of the spread of infection in any other way.

And lastly, How many cases of peritonitis due to operation infection recover? Very few indeed. It is recognised that the surgeon is well-nigh helpless. Why? Because there is no lesion giving rise to the infection that the surgeon can remove. I would submit that with the removal of the infecting source and the closure of the abdomen the surgeon's work is over.

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INTERNATIONAL RED CROSS CONFERENCE AT WASHINGTON.—In connexion with this conference, the ninth held since the ratification of the Geneva Convention, which has done so much to humanise the conditions of war, the Marie Feodorovna prize competition was held under Russian auspices. The subjects for competition varied from methods of organisation to Roentgen apparatus, and included a special class for methods of packing dressings at aid stations and in ambulances. In this class the only award was secured by Messrs. Burroughs, Wellcome, and Co. for "Tabloid" compressed bandages and dressings. The jury consisted entirely of Russian or other continental judges.

SYPHILIS D'EMBLÉE.[1]

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"Syphilis d'emblée" is a name which has been generally recognised in this country for years past, presumably for the lack of a better one, though in my opinion it is a term which conveys but little to the ordinary English mind, and appears to be open to various interpretations in the French vernacular—for instance, on reference to various French dictionaries, I find that "d'emblée," construed into our own language, signifies, "at the first," "straight off," "without difficulty," "without opposition," "by assault or by surprise," none of which definitions are exactly applicable to the condition I propose to deal with in this communication.

In his work on the differential diagnosis between syphilitic and non-syphilitic skin eruptions Dr. Pernet, who is equally conversant with the French and English languages, writes as follows: "The chancre may be a very insignificant lesion, a small solution of continuity, a harmless-looking erosion. This explains why the primary seat of infection may elude both the surgeon and the patient, a fact which has led to the misleading term, syphilis d'emblée. There is no 'syphilis d'emblée' in the usual sense of the term—i.e., without a solution of continuity, however slight, somewhere in the tissues, sufficient for the entrance of the syphilitic virus. But infection may occur directly into the blood stream, without the formation of a chancre; in such a case the term would apply."

The actual significance of the term, as used in this country, is *syphilis without chancre* and comprises those cases in which no chancre can be discovered after the most searching investigation; it *should* exclude the conditions alluded to by Dr. Pernet, in which "an insignificant lesion," &c., are present. A far better term for this condition is one which has occasionally been employed in other countries—viz., cryptogenic syphilis, signifying syphilis of hidden origin. Anyone who has had much experience of syphilis must have encountered a certain number of cases in which the customary initial lesion of the disease completely escaped detection, notwithstanding the minutest scrutiny; but since it is unlikely that anyone has met with this occurrence on many occasions not much stress has been laid upon it in modern literature. I have quoted Dr. Pernet, who has drawn attention to this possible contingency on more than one occasion, and it goes without saying that such an incident in the life-history of syphilis did not escape the observation of Sir Jonathan Hutchinson. In his most recent work on syphilis Hutchinson says: "However definitely as a matter of pathological accuracy we may repudiate the notion that acquired syphilis can ever begin without its initial lesion, yet for practical purposes we are obliged to admit that there are cases in which the primary sore wholly escapes notice." "The phenomena which characterise a chancre are probably to be met with only in the cutaneous or mucous surfaces. If the parasite gains access to deeper parts, it is possible that it may also gain access to the blood without producing any local changes." As an instance he relates the case of a medical man who happened to prick his hand whilst attending the confinement of a syphilitic woman. This accident occurred in the middle of December, and about the middle of the following February spots were for the first time noticed on the trunk. The site of the prick in the hand could not be identified, and there was no swelling in the axilla or any trace of chancre elsewhere.

In his recent work on syphilis Mr. C. F. Marshall says: "Although a chancre is found in the enormous majority of cases of syphilitic infection, there are some cases in which syphilis has developed without any chancre having been found even after careful examination, and to these cases the name of syphilis d'emblée has been given by French authors." Still, the question of syphilis d'emblée, or, as I shall henceforward entitle it, cryptogenic syphilis, does not appear to have impressed itself upon all those who have taken on themselves to contribute to our literature on syphilis, and in many of the standard publications on this subject I can find no mention made of it—e.g., in quite a recent and somewhat voluminous work on syphilis it appears to have completely escaped the notice of the editors.

Though I had encountered a certain number of cases of cryptogenic syphilis it was not until recently that I was struck with the large preponderance of such cases in members of our own profession. Many of you are probably cognisant of cases of syphilis of obscure origin and incapable of explanation which have occurred to friends and colleagues; but this possible contingency, which may happen to anyone engaged in the practice of surgery, medicine, or midwifery, may not have particularly attracted your attention. But from my personal experience I can affirm that such cases are by no means infrequent, and if all the cases of cryptogenic syphilis in members of our profession could be collated I fear that the total would be a somewhat formidable one.

My attention was first called to this subject by a note of two such cases described by Professor Jullien, of Paris. Two medical men, a surgeon and his assistant, operated on a woman of 32 for a tubercular swelling of the sternum. After excision and scraping they proceeded to sew up the wound. The needle, however, was a blunt one, and the surgeon in trying to force it through the skin wounded himself deeply on the end of the right index finger by a cut which bled somewhat freely. Subsequently the assistant met with a similar mishap, and wounded himself on the same finger. In both instances the puncture was healed in three or four days. On dressing the patient's wound for the first time eight days later they observed a slight ulceration with red edges at the seat of each suture, which suggested the possibility of syphilis to them, and on the following day a general macular eruption manifested itself on the patient. On examining her genital organs a healing chancre was discovered on a level with the fourchette and also some enlarged inguinal glands. Twenty-six days after the inoculation the surgeon had a feverish attack with a temperature of 103° F., and shivering and sickness, and had to remain in bed for a day. At the same time the site of the needle wound became sensitive, the end of the finger became swollen, and a slight ulcer appeared; this was followed on the thirtieth day by a macular eruption, and a week later by mucous patches on the scrotum and tongue; subsequently the syphilis pursued its ordinary course without any severe symptoms. The assistant had no sign of infection before the thirtieth day, when he also had an attack of fever, and though no changes appeared at the seat of inoculation a macular syphilide showed itself on the thirty-third day. In commenting on these cases Professor Jullien draws attention to the early date at which the blood of syphilitic subjects becomes infectious, before the appearance of any secondary eruption, and even before that of the initial lesion. The evolution of the disease was considerably modified by this direct infection of the blood stream, and one phase of the disease was absent—viz., the local enlargement of lymphatic glands—though the general adenopathy characteristic of constitutional syphilis manifested itself later.

I was originally somewhat sceptical as to the existence of syphilis without chancre, but after the perusal of Professor Jullien's paper, written more than ten years ago, I have been alive to this possibility, and have encountered a certain number of such cases which have fully convinced me that not only do they exist, but that they are not so uncommon as might be supposed; for instance, on looking over my case book of last year, I find records of three such cases which came under my notice within the space of two months. I claim no originality in pointing out the frequent occurrence of cryptogenic syphilis in members of our own profession, for I find that more than two years ago Waelsch made a communication on this subject to the *Münchener Medicinische Wochenschrift*, and related several cases in which medical men had contracted the disease in this manner.

Strictly speaking, the term cryptogenic syphilis can hardly be applied either to Professor Jullien's or to all of Waelsch's cases, for the point of entrance of the poison into the system was known in the majority of instances, though the initial lesion did not manifest itself at the seat of inoculation; these are rather cases of syphilis without chancre than of cryptogenic syphilis. But there is another class of case in which the victim of the disease is unaware of the occurrence of any breach of surface on the skin, or even of contact with anyone suffering from syphilis, and in which the method of entrance of the poison remains a mystery; to such cases

[1] Abstract of a paper read before the Medical Graduates' College and Polyclinic.

the term cryptogenic syphilis may justly be applied. As a type of such a case I will give a short epitome of the notes of a patient who came under my notice more than seven years ago. He was a resident medical officer in a large hospital, a man of blameless life, and one on whose word the strictest reliance could be placed. He assured me that he had never in his life had sexual intercourse, a statement I never for one moment doubted. In the middle of March, 1904, he began to suffer from headache, more severe at night, evening pyrexia accompanied by lassitude and disinclination for food. About a fortnight later a maculo-papular eruption manifested itself on the front of his chest, and subsequently spread on to the abdomen, neck, and upper extremities. At this time he was seen in consultation by myself and several of my colleagues, but though all regarded the eruption as suspicious and as strongly resembling a syphilide, none of us ventured at that time on a positive diagnosis of that disease. A papule was excised for microscopical examination, and a specimen of the blood was taken, in each instance with negative result; this was before the time that the Wassermann test had been introduced. Subsequently the eruption became more pronounced, and was accompanied by general glandular enlargement, which first manifested itself in the cervical glands. Before this a most minute investigation of the whole surface of the body, of the genitalia, and of the buccal mucous membrane had been made by myself and my colleagues, but with a negative result, and no history of any abrasion or even puncture of the skin could be elicited. But the progress of the symptoms ultimately forced me to the conclusion that the disease was syphilis, and he was put on antisyphilitic treatment a fortnight after the first manifestation on the skin. The patient informed me that a month previously to the onset of his symptoms there was a severe case of congenital syphilis in the wards under his care—a child with condylomata round the anus and in the flexures of the thighs; he had also probably examined a certain number of syphilitic throats in the casualty department, but he was utterly at a loss for any explanation as to how or where the infection had occurred.

I will not trouble you with any minute details as to the subsequent course of the case, but would merely call your attention to the fact that the symptoms were severe and did not yield very satisfactorily to treatment. Early in the course of the case the throat became severely ulcerated, periosteal nodes appeared on the cranial bones, and the hair commenced to fall out in patches. The patient was first treated with mercury in pill form, accompanied later by iodides. Six months later some slight ulceration of the throat still persisted, and the cervical glands were still enlarged; the gums had never been affected by the treatment, though on one occasion he had been somewhat salivated. I then gave him a course of intramuscular injections, firstly of calomel, and later of hydrarg. sozoiodolate, but this method of treatment was not well borne. He continued mercurial treatment for about two years, and after that time had occasional courses of mercury and iodides. In October, 1909—i.e., five years from the commencement of symptoms—the Wassermann test was found to be positive, so a further course of mercury was prescribed. Last year he suffered from considerable depression, both mental and bodily, he was losing weight, and complained of pains in the back, shooting thence down the arms and calves, but no obvious signs of parasyphilis could be discovered. He had further mercurial treatment, and at the present moment he is in fairly good health, though at the beginning of the year the Wassermann test was positive.

A second case to which I would draw your attention is that of a surgeon, aged 47, of fine physique and endowed with remarkable powers of endurance, whose account of his symptoms I will give you almost in his own words. In May, 1905, after a winter's very severe work, and more than an ordinary number of major operations, he felt ill, with fever and shiverings. The right supratrochlear and axillary glands began to enlarge, but on a critical examination of the fingers and hands with a lens no lesion of any kind could be detected. In about three weeks the gland above the right elbow suppurated, and the pus was found to contain a feeble variety of staphylococcus. A month after the first symptoms a scarlatiniform rash spread over the chest and trunk; this was typically "septic" in nature and was thought to be pyæmic. The axillary glands enlarged to an enormous size, as though a sarcomatous growth existed, but these did not suppurate, and in about six months gradually dwindled away and disappeared. About five weeks after the first symptoms, a dusky papular syphilide appeared and commingled with the septic rash previously alluded to. Severe iritis of the left eye ensued and threatened suppuration, and necrosis of the cranial bones supervened in three months. An abscess formed in the antecubital gland above the left elbow, and another one in the right biceps about three months after the appearance of the first symptoms; in addition, the patient suffered from an impacted renal calculus and right basal pneumonia. For the whole of the second year he suffered from severe trigeminal neuralgia of the right fifth nerve. The subsequent history was four years' continuous and severe illness; extensive superficial necrosis of the cranial bones; osteomyelitis of the right radius, periostitis and osteitis of the right humerus; nasal necrosis, with destruction of the whole of the vomer and loss of the senses of smell and taste. At the expiration of five years the patient gradually recovered health and strength, and at the present time his condition is perfectly satisfactory. Owing to the conditions of sepsis and weakness the treatment was very difficult. Mercury was commenced by the mouth as soon as the dusky eruption appeared, and during the attack of iritis was pushed to salivation. In 1906 and 1907 he had courses of baths and inunctions at Wiesbaden, and in 1907 and 1908 large doses of iodide, a drachm a day, on alternate weeks for upwards of 18 months. Surgical operations were continually being performed under chloroform; all the abscesses on the scalp and arms showed a peculiarly malignant character and an inveterate tendency to burrow and slough. In addition to the above curious history, from time to time, and especially in the third year of the illness, attacks of severe coughing, cardiac irregularity, and sickness were experienced, with a sense of impending death. The coughing produced asphyxial symptoms with unconsciousness, and were believed by the patient himself to be due to periosteal exudation and pressure on the trunk of the vagus nerve.

This graphic history of months and years of suffering heroically borne is an example of dire disaster which cut short a valuable career, and which nearly cost the life of a distinguished member of our profession.

Another case was that of a medical missionary who, whilst undertaking his duties in a malarious district of China, experienced a feeling of malaise and pains in the bones, accompanied for a week with high fever and nocturnal exacerbations. Three weeks subsequently he noticed a macular eruption all over the trunk, but being uncertain as to the diagnosis he did not commence treatment until two months later. The eruption was succeeded by sore-throat, ulcerated tonsils, headache, loss of weight, and impairment of vision owing to an attack of cyclitis. He was first seen and treated by me four years ago, and has with intervals been on treatment ever since. After a year's treatment he developed a gumma over the right patella, which broke down and left an obstinate ulcer, and in the following year he had a severe attack of iritis; since then he has been free from symptoms, and the only relic of the disease at this moment is the presence of some "muscæ volitantes" which somewhat interfere with vision.

The fourth case was that of a country practitioner, whose duties may have brought him into contact with many cases of syphilis, but who was confident that he had never had a chancre on his fingers or elsewhere, and was not at any time conscious of any abrasion or wound. His attack commenced four years ago with a large and painful swelling of the axillary glands of one side and a feeling of intense malaise; about a month later a macular syphilide and ulcerated throat supervened, and last year he had several severe attacks of iritis, which at one time threatened loss of vision in one eye. His ocular symptoms cleared up after a course of 12 calomel injections. Early this year he had a severe attack of frontal pain, followed by a nasal discharge and ulceration of the septum nasi, his Wassermann reaction being at the same time strongly positive. He is at the present time just completing a second course of calomel injections, is quite free from symptoms, and shows no signs of any impairment of vision.

In the next case the patient, a medical man, noticed a pustule at the extremity of the right thumb, following upon an operation for gonorrhœal phimosis a week previously. The opening of the pustule was followed by intense local pain and spreading ulceration; then followed acute pain in

the interphalangeal joint, followed by abscesses in the arm; these were opened, and also a quantity of carious bone was removed from the terminal phalanx. A fortnight after this operation he developed a typical desquamating papular eruption on the abdomen and back, and mucous tubercles on the scrotum. When first seen by me there could be no doubt as to the nature of his complaint, and so I at once put him on calomel injections, and from that day to this have heard nothing further of him.

All the above-mentioned cases occurred in members of our own profession, but the sixth and last one to which I shall draw your attention is that of an officer stationed in a remote district of South Africa. Six years ago he had a severe attack of iritis which was treated as rheumatic, and this was followed by an eruption on the face. He subsequently saw a specialist who pronounced the disease to be syphilis, and said that it had probably been contracted by the mouth; there was, however, no evidence sufficient to justify this theory, and the patient strenuously denied any exposure to contagion for a long time previously. The course of the disease was a malignant one notwithstanding energetic treatment; he had severe ulceration of the palate and throat, and when first seen by me last year the palate was a mass of cicatricial tissue for the most part adherent to the back of the pharynx: the cartilaginous septum had been destroyed by ulceration a year previously; he had a severe and most disfiguring macrocheilia, and an intensely red tubercular syphilide on the nose and face resembling a severe lupus erythematosus. He rapidly improved under calomel injections, but ultimately became intolerant to this form of treatment, and so was given one injection of salvarsan intravenously, since which he has steadily improved.

From the history of these cases it will be apparent that they are not normal instances of the disease in so far that one of the stages, that of the primary sore, is conspicuous by its absence, and as a consequence the local involvement of the lymphatic glands does not supervene. In a typical case of syphilis, in which the initial lesion is obvious, there is of necessity an enlargement of that group of glands into which the lymph from the seat of inoculation is poured, and the lymph obtained from such glands is found to contain the spirochæte in large numbers; it is quite conceivable that the glands prevent to some extent the escape of the spirochæte into the circulation for the space of time which has been entitled the second period of incubation—i.e., the interval between the appearance of the primary sore and that of the secondary phenomena, and during which it may be assumed that the blood stream is being progressively invaded by the spirochæte. But in these cases of cryptogenic syphilis there is no local enlargement of glands in the vicinity of the introduction of the virus, and no filtration of the spirochæte through such glands, since the organism is presumably introduced directly into the circulation.

Whether the subsequent course of the disease is in any respect modified by this unusual method of contagion is a matter for discussion, and considerably diverging opinions have been expressed upon this point. If I were asked to express an opinion based upon my limited personal experience I should be inclined to say that cases of cryptogenic syphilis were characterised by unusually severe sequelæ, and were usually unamenable to the ordinary methods of treatment. Certainly some of the cases I have alluded to justify that opinion, and there is one strong argument in favour of its being correct. It is an axiom that the earlier the treatment of syphilis is commenced the better is the prognosis of the case, if efficiently and sufficiently treated; if the sore is capable of early detection and diagnosis, and especially if it admits of excision, the subsequent evolution of the disease is considerably modified. But in the class of case now under consideration the patients suffer from the disadvantage that an early diagnosis is impossible, and the treatment cannot be commenced until the symptoms are obvious, until the system is thoroughly impregnated with the poison, and the spirochæte running riot therein. Certainly the second case I described was one of the most malignant nature, and its virulence appears to have been due to the simultaneous introduction into the circulation, not only of the spirochæte, but of some unusually virulent type of staphylococcus.

Undoubtedly the non-recognition of a urethral chancre has been responsible for some of the alleged cases of syphilis without chancre, but anyone conversant with this condition could hardly overlook it, seeing that it is almost invariably accompanied by induration of the dorsal lymphatic of the penis and of the inguinal group of lymphatic glands, an indication that the poison has been introduced by means of sexual intercourse. In urethral chancre a urethral discharge may lead to the diagnosis of gonorrhœa, and may be treated as such by injections and balsamic remedies, and I have encountered several such cases in which an obvious secondary syphilide has been attributed to the use of anti-gonorrhœal remedies such as copaiba and cubebs. As regards the treatment of cases of cryptogenic syphilis there is nothing especial to be said, except that it should be in the most drastic form we have at our disposal. If the patient's condition admits of it, he certainly should have at least two injections of salvarsan followed by the energetic administration of mercury.

More important is the question of prophylaxis, and the surgeon should ever bear in mind the possibility of this method of infection. The habitual use of gloves in the examination of patients is to be recommended, especially in the investigation of morbid conditions of the rectum, vagina, mouth, and pharynx. There are a certain number of operations in which the surgeon is especially liable to encounter some abrasion or puncture on the fingers, amongst which I would instance the wiring of fractures, excision of ribs, or, indeed, of any bones, gastro-enterostomy and intestinal anastomoses. In such cases the use of gloves affords comparatively little safeguard, for they are easily pierced by a sharp spicule of bone or possibly by a needle. Everyone operating without gloves is, of course, careful to see that he has no abrasion on his hands and no crack in the skin by the side of the nails, and if such exist he must be careful to close them with collodium or some such means. If the surgeon has the mischance to injure his hands in the course of an operation he should at first encourage the flow of blood from the seat of injury; as a precautionary measure he should subsequently treat the abraded surface with a strong calomel ointment, which should be energetically rubbed in, bearing in mind Metchnikoff's experiments on the immediately destructive action of that substance in cases of recent inoculation with the syphilitic virus. But however careful the surgeon may be, it is apparently impossible for him to make a certainty of escaping from this mysterious form of syphilitic infection; insurance policies can be obtained against accidents and against many diseases, and it is not unreasonable to suggest that facilities might be given to members of the medical profession to insure themselves against this catastrophe.

Queen Anne-street, W.

RELIEF FOLLOWING BILATERAL NEPHROTOMY AND DRAINAGE

FOR ACUTE NEPHRITIS ATTENDED BY SUPPRESSION OF URINE AND URÆMIC CONVULSIONS.[1]

BY W. G. SPENCER, M.S. LOND., F.R.C.S. ENG.,
SURGEON TO WESTMINSTER HOSPITAL, ETC.

THE patient, a man aged 36, was admitted to the Westminster Hospital for the radical treatment of a right inguinal bubonocele. The urine was noted as containing a trace of albumin. He gave no history of any previous illness, although later when pressed said he had had pains in the loins before. On March 28th, the twentieth day after the operation, he was up and about the ward preparatory to leaving on the following day. About midday he was attacked by a dull aching pain in the loins, with scalding micturition, and he vomited twice. The pain was relieved by aspirin and counter-irritation to the loins. On the next day (the 29th) he passed 15 oz. of urine and vomited five times. He was made to sweat repeatedly, purged, and kept on a milk diet. On the 30th he passed 12 oz. of urine, on the 31st 10 oz., and on April 1st 8 oz. The urine contained not more than a cloud of albumin, red corpuscles, white corpuscles or pus cells, oxalate crystals, and epithelium, but practically no casts. His blood contained 25,300 white blood corpuscles in 1 c.mm., 92 per cent. being polymorphous. He was examined twice by the X rays without finding any sign of stone in the pelvis or ureter of either kidney. On

[1] The patient was exhibited at the meeting of the Clinical Section of the Royal Society of Medicine on May 31st.

April 2nd at midday, five days from the commencement of the attack, he had a uræmic convulsion lasting 10 minutes. For the previous 36 hours no urine had passed into the bladder. At 1 P.M. he had a second uræmic convulsion lasting 1½ minutes. At 2 P.M. he had a third convulsion, and at 2 30 P.M., when the operation was begun, he was still partially unconscious, and his breath had a urinous odour.

The left kidney was exposed through a lumbar incision, and was found to be about double the normal size, much congested, and its capsule inflamed. Forceps were pushed from the convex border, through the very friable kidney substance into the pelvis of the kidney, and this was followed up by one finger. The pelvis and calyces were not dilated at all; there was no urine in the pelvis. The palpation of the kidney and the probing of the ureter failed to discover any stone or other cause of obstruction. A drainage-tube was fixed in the kidney pelvis, and the wound was not sutured. The operation was repeated on the right side, and the observations made were similar to those made on the left. There was no excessive hæmorrhage.

After the operation saline infusions, hot air baths, aperients, and a milk diet formed the course of treatment, practically the same as that before the operation. The patient recovered from the effects of the operation without any complications; urine began to escape from both drainage-tubes very soon. Before the dressings were changed, 17 hours after the operation, they had to be packed five times. There was no clot under the dressings when removed, and the urine soon became free from blood. On April 3rd 8 oz. of blood-stained urine passed by the bladder; on the 4th 45 oz. were so passed, and this continued for some days, whilst urine escaped freely from the wounds. On the 5th the drainage-tubes were removed, and the quantity of urine passed by the bladder gradually increased to 80 oz. per diem. On April 30th the patient got up. On May 2nd the right lumbar wound ceased to leak urine, on the 23rd the left wound ceased to leak, and healing of both wounds occurred within two months of the operation.

The examination of the eyes disclosed no pathological changes. The estimation of the blood pressure in the radial by Dr. A. M. Gossage yielded a maximum of 145 mm. Hg and a minimum of 100. After the healing of the wound the urine passed averaged about 80 oz. per diem; the specific gravity was about 1006, and it contained a cloud of albumin or 0·25 pro mille.

The patient appears to be suffering from chronic nephritis, and an intercurrent attack of acute nephritis caused congestion and arrest of the kidney secretion. The relief of the congestion by bilateral nephrotomy and drainage was followed by a return of the patient to his previous state. He expresses himself as feeling quite well. Besides the condition of the urine, the only noticeable feature is the rather hard radial artery.

Portland-place, W.

TETANIC SPASMS OCCURRING IN A CASE OF CHRONIC ULCERATION OF THE LEG.

BY MONA DEW ROBERTS, M.B., B.S. LOND.,
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THE following case is of interest owing to the unusual form of termination.

The patient, a single woman, aged 46, was admitted to St. Pancras South Infirmary on Oct. 19th, 1911. The history was that for the last two years she had suffered from an ulcerated leg which had occasionally improved, but had never quite healed. For some time she had been addicted to taking drugs, either morphia or cocaine, hypodermically, and had in consequence become entirely neglectful of herself, until for the last few months she had ceased to dress the leg and had allowed her room and everything in it to fall into a state of filth. On Oct. 9th she was admitted into hospital, being transferred to this infirmary on the 19th, her septic condition rendering it inadvisable for her to be retained in a surgical ward. For about a week she had been troubled with a cough and for the last ten days had suffered from diarrhœa.

Condition on admission.—It was evident that the patient was dangerously ill. She was a big, florid woman, childish and peevish in manner. Her face was flushed, and she lay limply in bed with her arms outstretched, resenting any interference. The temperature proved to be 103·2° F., the pulse was 120, and the respirations numbered 40 per minute and were panting in character. On examination, the right leg was found to be enormously swollen, resembling elephantiasis in appearance. Inflammatory redness extended from the foot to the knee, and everywhere the limb pitted on pressure. No fluctuation was present. On the dorsum of the right foot was a large circular ulcer, the base of which consisted of a dry black irremoveable slough. Two foul ulcers with ragged edges and purulent bases became confluent on the posterior aspect of the lower limb and were extremely offensive. Beyond the tachycardia the heart's action appeared to be well maintained; the area of cardiac dulness was not increased, and the sounds were clear and unaccompaned by murmurs. Numerous rhonchi were heard over both lungs. At the apex of the right lower lobe the breath sounds were exaggerated, whilst at the base the note was impaired and the breath sounds were faint. Vocal resonance was unaltered. The urine was acid, high coloured, and of specific gravity 1030. Neither sugar nor albumin was present. The patient was ordered a mixture containing carbonate of ammonia and ether four-hourly, and fomentations to the leg at similar intervals.

Subsequent condition.—Oct. 20th: The patient did not sleep all night, but continually took off her nightdress and kept throwing aside the bedclothes. She had incontinence, the motions being unformed, grey in colour, and very offensive. In the morning the temperature was 103° and the pulse-rate and respirations had increased to 134 and 48 respectively. Irregularity of the pulse was now first noticed, and the respirations were shallow and laboured. She was therefore given four minims of liquor strychninæ hypodermically every four hours. The inflammatory redness still reached as high as the knee, and much dirty-brown pus oozed from the ulcers. Irrigation of the ulcers with 1 in 200 izal was commenced.—21st: This morning the patient looked slightly better, and her expression, which had previously been distressed, was now more placid. The temperature was at a lower level. A fluctuating swelling of the size of a plum was now apparent below the internal malleolus. After freezing the skin with ethyl chloride an incision was made and a tube inserted. Pus in considerable quantity escaped.—22nd: The patient's improvement was maintained, and the temperature averaged 100° through the day. The redness of the skin had now quite disappeared, and to prevent pressure on the ulcers the leg was suspended in a Salter's cradle. On auscultation very few rhonchi were heard in the lungs, and the breath sounds at the right base had improved.—27th: At 10 A.M. the temperature was 99·8°, the pulse-rate 146, and the respirations 40 per minute. Muttering delirium was present. At 6 P.M. the temperature ran up to 104°, and late in the evening the patient complained of difficulty in swallowing. The ulcers of the leg were much cleaner.—28th: At 8 A.M. the patient was unable to open her mouth, her jaws being tightly clenched. When I saw her at 11.30 A.M. she had typical risus sardonicus, which occurred several times in the space of a few minutes. Almost immediately a convulsion followed, lasting about four seconds, in which rigidity of the head, trunk, and limbs occurred; the fingers, however, remained perfectly supple and flaccid throughout. The angles of the mouth were frequently drawn downwards without the limbs being affected. In the interval between the spasms the posterior borders of the masseter muscles were clearly defined and the mouth could not be opened either by the patient or myself. Within the next hour three convulsions took place, in which profuse sweating occurred, and an uplifting of the eyebrows giving the patient an expression of fear. No cry or sound was at any time made. At 2 P.M. copious frothy mucus collected in the patient's mouth, and was expelled with difficulty through a chink between the jaws formed by the site of an old tooth. At 2 5 P.M. a severe convulsion took place, compressing the thorax so that the patient became intensely cyanosed, and death occurred in a few seconds, consciousness having been retained till the end.

At the onset of the tonic contractions strychnine poisoning was at once thought of. This, however, was negatived by

the following facts: (1) No relaxation of the jaw muscles took place between the attacks; (2) there was no clenching or affection of the hands; (3) trismus was early and marked, preceding the general spasms; and (4) clinically there was no evidence of impaired renal elimination. In the absence of any bacteriological examination I therefore take it that the case was one of tetanus, in which the organisms gained admission most probably *viâ* the chronic septic ulcer, though one cannot exclude the possibility of the patient having inoculated herself by means of the hypodermic needle, which she no doubt allowed to become contaminated with the dirt existing in her room. Tetanus bacilli, however, grow most readily in the presence of other bacteria, and hence would have become propagated most readily at the site of the septic ulcer. In this case the incubation period was over 15 days, and although a late incubation period is usually of good omen, and the patient improved steadily after admission, yet she was too desperately ill to survive any complications, and hence the tetanic convulsions proved fatal with alarming rapidity.

In conclusion, I am indebted to Dr. Thackray, the medical superintendent of the infirmary, for permission to publish the notes of this case.

St. Pancras South Infirmary.

AN ACCESSORY UTERUS DISTENDED WITH MENSTRUAL FLUID

ENUCLEATED FROM THE SUBSTANCE OF THE RIGHT BROAD LIGAMENT.

BY JAMES OLIVER, M.D. EDIN., F.R.S.E., F.L.S.,
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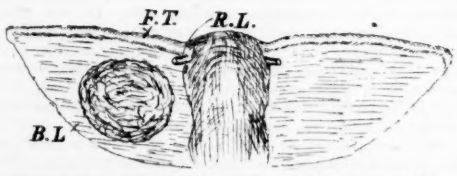
THE patient who is the subject of this record is 34 years of age and has been married six and a half years. She has had two children and no miscarriages, and the last child—born 11 months before the accessory uterus was removed—was suckled for six months. Menstruation was re-established three months after weaning this baby, and since this confinement there have been two menstrual periods. The first menstrual discharge made its appearance when the patient was nearly 19 years of age, and ever since then she has complained of attacks of pain referred to the right iliac region, severe for about half an hour and attended then with sickness, but experienced only on the fifth and last day of menstruation. So long, however, as menstruation was held in abeyance by gestation and lactation there was complete freedom from these cyclic attacks.

Physical examination detected in the right half of the pelvis distinct from the uterus a tumour of the size of a small orange, and as I considered this was the right ovary enlarged and involved in adhesions I advised operation.

On opening the abdominal cavity in the middle line I discovered that the tumour was located in the substance of the right broad ligament about midway between the normal uterus and the right pelvic wall (Fig. 1). The two ovaries,

FIG. 1.



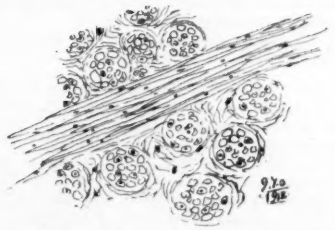
Diagrammatic representation of the anterior aspect of the tumour showing relative size and relationship to the uterus, which was normal. F.T., Fallopian tube. R.L., Round ligament. B.L., Broad ligament.

the two Fallopian tubes, and the two round ligaments of the normal uterus were in every respect normal. The tumour was practically globular and its upper border was free from, but extended close up to, the right round ligament of the uterus. There were no adhesions either of abdominal or pelvic structures. In the fingers of my left hand I grasped firmly the right broad ligament below the lower border of the tumour and then incised the broad ligament transversely over the summit of the tumour between the round ligament and the reflection of the bladder. The right broad ligament was greatly hypertrophied and the tumour could not be made to bulge into the wound until the broad ligament had been incised to the depth of about half an inch. The tumour with a little difficulty was enucleated intact from its bed by means of the finger, aided by a few snips of the scissors here and there. After tying a few vessels the cavity in the broad ligament was closed by deep and superficial catgut sutures. When the suturing was completed the site from which the tumour had been removed was almost as large as the neighbouring normal uterus, which had not been encroached upon at any time during the operation.

Description of the tumour.—The tumour was not encapsuled and its external surface was rough. It was globular in shape and about two inches in diameter. It was a closed sac and on cutting into it about an ounce of a chocolate-coloured fluid escaped. This fluid was very similar to that which one finds when one half of a didelphic uterus is distended with menstrual blood in consequence of an imperforate cervix. The wall of the tumour was uniformly about five-eighths of an inch thick and it possessed a distinct lining membrane.

Minute anatomy of the tumour.—The wall was composed of unstriped muscle with a small amount of connective tissue and many blood-vessels. (Fig. 2.) It was lined by cubical

FIG. 2.



Unstriped muscle with bundles cut crosswise.

epithelium, with a supporting framework which resembled very closely the stroma of the normal endometrium. There was much cellular exudation, many of the cells being polynuclear leucocytes. Here and there tubular glands, similar to those found in the normal uterus, were detected. (Fig. 3.) The epithelium in many places was undoubtedly ciliated.

FIG. 3.

Cubical epithelium extending into a dilated gland.

Summary.—The clinical history of the case and the fact that the tumour which was distended with menstrual fluid resembled in its structure that of a normal uterus justifies the conclusion that it must be looked upon as an accessory uterus. It is most noteworthy, however, that it existed side by side with, and distinct from, a perfectly formed uterus with normal ovaries, Fallopian tubes, and round ligaments.

Four weeks after the operation there was very little evidence of hypertrophy about the right broad ligament.

Gordon-square, W.C.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

Discussion on Syphilis.

A SPECIAL meeting of this society was held on June 10th at the new house of the society, 1, Wimpole-street, W., when a discussion was held on "Syphilis, its Prevalence, its Relation to Public Health, and its Treatment."

Sir HENRY MORRIS, the President, in introducing the subject to the meeting, entered at some length into the history of the disease, quoting from the works of the early physicians, and paying particular attention to the question whether the disease came to Europe with the return of Columbus in March, 1493, and to the further question whether the disease which proved so destructive to the French army under Charles VIII. before Naples was really syphilis. He quoted a number of passages from Shakespeare's plays showing the frequent conversational use, even by Court ladies, of the term "pox," such as "The pox upon her green sickness for me"; "Pox on it, I will not meddle with him." He said there was evidence that Shakespeare knew the etiology, the symptoms, and the treatment of every stage of syphilis.

The discussion was opened by Dr. NORMAN MOORE, whose views on the past and present intensity of syphilis will be found in another column (see p. 1600).

Syphilis, with Especial Reference to the Treatment of the Disease.

Mr. D'ARCY POWER then called attention to the manner in which the treatment of syphilis had been revolutionised during the last seven years by the discovery of its cause and the consequent improvement in its pathology. The modern treatment of syphilis, he said, dated from the years 1905–1909. Schaudinn discovered the spirochæte in 1905, Wassermann published his test in 1907, and Ehrlich issued his remedy in 1909. These dates were of importance as showing the recent character of their scientific knowledge of syphilis, whilst they emphasised the need for caution in making dogmatic statements about a disease which had such long-continued and far-reaching results as syphilis. Mr. Power stated that mercury was given in a very haphazard manner in all cases of "venereal disease" until quite recently, for many general surgeons of the last generation had hazy notions of the relationship of "chancres" and "chancroids." In this country he attributed the rational administration of mercury to the teaching and practice of Sir Jonathan Hutchinson, who was amongst the first to employ the drug to cure the disease, and not merely for the relief of symptoms. He was hampered by the absence of any test for cure, and was obliged to depend upon time and circumstances to decide whether or not the syphilis was eradicated. The first variation from the methodical and routine administration of mercury by the mouth or by inunction was the use of intramuscular injections. This plan was reduced to a system by Colonel F. J. Lambkin, A.M.S., whose recent death in South Africa was deplored. Mr. Power gave details of the routine treatment recommended by Colonel Lambkin, and added certain points in the technique which he had found useful. Mr. Power believed the method to be well adapted for the army and navy and for hospital practice, but thought it was less fitted for private practice. It needed a certain amount of skill and a rigid cleanliness if untoward accidents were to be avoided. Two formulæ for the administration of perchloride of mercury and iodide of potassium were submitted. They were prepared by Mr. Langford Moore and Mr. S. Tweedie, the dispensers at St. Bartholomew's Hospital, after a long series of experiments designed to make a less nauseous mixture than that usually prescribed. Mr. Power stated that he was unable to speak from personal experience of the arylarsenates and scamin, but he thought very highly of "606" or salvarsan. He pointed out, however, that salvarsan was an adjuvant to mercury, and that in the light of their present knowledge it should not be used by itself or in place of mercury. Two great facts stood out in connexion with the action of salvarsan in syphilis; it cured the symptoms in a shorter time than mercury, and it could be employed as a test because, in many cases, when salvarsan was given to a syphilitic patient whose Wassermann test was negative, the first effect of the injection was to render the reaction positive, although in a short time it again became negative. The outcome of his experience with salvarsan was that it had proved especially useful in cases of chronic superficial glossitis, in active syphilitic periostitis, and in ulcerating syphilides of the skin. It had been less serviceable in craniotabes, and in cases of osteitis associated with the formation of sequestra, because in these conditions the pyogenic organisms were more important in producing the pathological processes than the syphilitic infection. The results had not been very satisfactory in cases of syphilitic arthritis, doubtless because many of the inflammations of the joints in syphilitic children had been associated with tubercle. Mr. Power also gave details of a parasyphilitic case in which considerable benefit was obtained from the administration of injections of salvarsan. The routine of the technique employed in the administration of salvarsan was detailed, and the chief difficulties and sequelæ were mentioned, but Mr. Power stated that he had met with no serious accidents from its use. He summed up his opinion of salvarsan by saying that it was a useful remedy if its limitations were recognised. How far it was useful in the initial stage of syphilis he did not know from personal experience. It was said that primary sores healed much more quickly if salvarsan was given than if it was not given, but the glands which enlarged as a result of the infection remained harder than normal, although they had returned to their natural size. The drug was very useful in the secondary and tertiary stages in those cases where the lesions were due more to syphilis than to pyogenic micro-organisms. It was serviceable, too, in some cases of parasyphilis, but to what extent and under what conditions he was again ignorant from want of personal experience. More information was still needed about the treatment of heredo-syphilis with salvarsan, whether it was best to treat the child through the mother, by means of an intermediary, as a goat or cow, or directly—i.e., the child itself. Broadly, he did not think that syphilitic lesions were more completely cured by salvarsan than they were by mercury, but the result was certainly brought about more speedily; and as the administration of salvarsan did not prevent the simultaneous employment of mercury, the two remedies might be serviceably used together. But until much more evidence had been brought forward and its efficacy had been proved in a very large number of cases for a period of several years, they would not be justified in saying that salvarsan cured syphilis. Wassermann's test was very helpful in the recognition of syphilis, but it was not infallible. It was said to be positive in 95 per cent. of cases during the secondary stage and in 75 per cent. during tertiary manifestations, but it was only positive in 50 per cent. of cases where syphilis was latent. Clinical experience, and the caution begotten of it, must still guide the advice given to patients suffering from syphilis, although recent advances in the treatment of the disease had been so great that if Wassermann's reaction failed there was no reason to despair of obtaining some still more reliable test in the immediate future. In the treatment of syphilis mercury should be given by intramuscular injection, or, if that method could not be employed, inunction should be used. When, as in ordinary private practice, mercury had to be given medicinally, the perchloride was better than grey powder. It seemed, however, that so long as mercury was given in small doses, and systematically, the exact preparation used was a matter of no great moment. The mercury should be given with regulated periods of rest, and a Wassermann's test should be made at the end of each period just before the mercury was recommenced. If the test was negative an intravenous injection of salvarsan might be given with a view to elicit a positive result. If the test still remained negative after this injection the mercury might be discontinued for a further period so long as there were no signs of syphilis, and at the end of a further period of two months the test should be again employed. Marriage might be permitted under these conditions when the Wassermann test had remained negative and there had been no syphilitic symptoms for at least a year. In this manner they should avoid giving mercury for a longer time than was absolutely necessary, whilst the drug would be continued until the syphilis was cured, even when the absence of symptoms might seem to make a further

mercurial course unnecessary. They should also have taken a step in advance of Colonel Lambkin, who was obliged to take a time-limit with absence of symptoms as a guide for discontinuing a mercurial course, because a scientific test had not yet become available. The paper concluded with an account of the present method of treating syphilis, taking as an example the case of a surgeon or a nurse infected in the course of duty. Mercury, Mr. Power said, should be given at once when the infection was undoubted, but in the more difficult cases, where the diagnosis remained doubtful, it might be withheld until a positive Wassermann's reaction had been obtained.

Dr. F. W. MOTT followed with an introductory address on

The Relation of Syphilis to Public Health, including Congenital Syphilis.

He said: There are no reliable statistics to show whether syphilitic infection is more prevalent at the present time than formerly, and the cause of diminution of severe lesions may be due to an increase of latent syphilis, for the possibilities of a general and widespread syphilisation of the race have occurred since the development of the railway system in England. The struggle for existence is falling more and more upon the nervous system, and thus it becomes the *locus minoris resistentiæ*; consequently functional neuroses and psychoses are more prevalent. The conditions which favour cerebral and spinal neurasthenia, combined with an acquired widespread racial immunity to severe forms of lesions due to the reaction of the cells of the body to the syphilitic virus, appear to me to have had a determining influence in the increased production of the late syphilitic manifestations of disease of the nervous system which are usually termed parasyphilis or metasyphilis. They are generally looked upon as degenerative processes of the nervous system; they are insidious in origin, progressive in character, and comparatively to syphilitic diseases of the nervous system uninfluenced by antisyphilitic treatment. It is impossible in England to arrive at any definite conclusions regarding the prevalence of syphilitic infection among the population; likewise it is impossible to arrive at any conclusions relating to the frequency of the incidence of disease of the nervous system caused directly or indirectly by syphilis; still, the experience of general practitioners, general physicians, or nerve specialists is to the effect that syphilis is by far the most important cause of disease of the nervous system. With the present system of relief at special hospitals, general hospitals, asylums, and infirmaries a process of selection occurs which interferes with the preparation of reliable statistics regarding the percentage of cases of syphilis that develop syphilitic or parasyphilitic disease of the nervous system. Yet the importance of the subject is great from the public health point of view, for if the virus attacks the nervous system it is rarely that a complete and permanent cure results, even with efficient treatment. Some degree of paralysis, feeble-mindedness, or functional defect will be left in the great majority of cases; in many instances in spite of treatment the patient is left with an invalid brain rendering him more or less helpless.

I collected a large number of cases (over 40) in my own experience of syphilitic cord and brain disease about 15 years ago, and I then expressed the opinion that many of these cases had been cured by efficient treatment. Subsequent experience has taught me to modify my views. The majority of these cases have since died from the disease, or complications arising from the disease, after having been paralysed, and this in spite of treatment. Statistics have been made on the continent relative to the incidence of nervous disease occurring in syphilitic subjects. Hjelmann found 15 to 25 cases of disease of the nervous system per 1000 persons infected with syphilis, excluding general paralysis and tabes. Reumont gives 8·5 per cent., including tabes, and Engelstedt 5 per cent. White and Melville, in their article on Venereal Disease, its Present and Future,[1] state: "Dr. Blaschko gives as his opinion that in Berlin every man who reaches the age of 30 has (on an average) had gonorrhœa twice, and every fourth or fifth man has had syphilis." In Scandinavian countries where syphilis has for a long time been a notifiable disease, recognition of the association of general paralysis and syphilis took place long ago, as it was first called attention to by Kjellberg and Jensen. In countries where there is State control of the hospitals and where everybody must pay for treatment, or if he or his friends are not able to pay the village or town where he lives must, more reliable data are possible than in this country, especially in the metropolis where there is no system or organisation. When the Insurance Act is brought into force there will be an excellent opportunity of ascertaining the prevalence of venereal disease, for I understand that venereal disease will not be a bar to medical benefits; consequently reliable statistical records can be prepared of a large proportion of the population. Such statistics will give approximately reliable information regarding the prevalence of gonorrhœa and syphilis.

White and Melville point to the fact that the number of recruits annually rejected from the army for venereal diseases shows a great and steady decrease in syphilis from the appalling figure of 16 per 1000 to 1·5; whereas there is a steady persistency of other venereal diseases at the level of about 2 per 1000 for the last 40 years, rising in the last five years to 3·5, and still apparently increasing. By these figures they conclude "a decrease of all venereal diseases to a quarter of its former bulk, the whole decrease having occurred in syphilis. Syphilis, they say, then, from being a deadly pestilence, has become of manageable dimensions, while the inroads of gonorrhœa are increasing." In my opinion this statement, however, requires some qualification or a false conclusion will be arrived at.

Let us first consider gonorrhœa and syphilis as regards (1) the individual; (2) racial immunity. An attack of gonorrhœa does not give immunity, and several, even many, infections may occur. The chances of cure are greater, but its reinfection may occur; the opportunities of acquiring it from prostitutes are much greater than in the case of syphilis, for although the influence of the syphilitic virus remains in the body it is rarely communicable to others after three or four years have elapsed, even though the infected individual may be suffering from serious symptoms. Gonorrhœa sterilises, male and female, by inflammatory lesions; it has no influence on the developing ovum; one attack does not give an immunity the same as syphilis.

Attenuation of the virus of syphilis and racial immunity.—(*a*) A widespread deadly disease produces immunity by killing off all those most susceptible to it, leaving those who are less susceptible or immune to propagate; this presupposes that the body tissues can set up a defensive reaction to the multiplication of the specific organism. Sooner or later the virulence of the disease dies down because there are increasing numbers of the population who either have it in a mild form, a latent atypical form, or possess a complete immunity. Whether a father who has had syphilis and not communicated it to the mother is able to transmit any immunity to the offspring is a moot point, for it implies the transmission of an acquired character, which to many scientists is a biological heresy. However, there are reasons for supposing that pathological variations of the germ plasm may result from nutritional disturbances of the sexual cells occasioned by prolonged toxic conditions of the blood. (*b*) The more systematic and universal reliance placed upon mercury and less upon iodide for treatment in the primary and secondary stages than formerly and the continuance of the treatment for several years. This has greatly diminished the virulence of the organism in the body, and may have so modified its virulence that when it passes into the body of another person it produces a less virulent reaction. Experimental observations upon trypanosomes suggest that this inference is justifiable. Thus mercury by its widespread use may have attenuated the virulence of the spirochæta generally in this country. (*c*) Antispesis and asepsis by destroying or withholding the influence of secondary microbial infection have been largely instrumental in averting some of the serious skin, bone, and visceral lesions, and have aided greatly the defensive reaction of the body against the specific organism. (*d*) The less consumption of alcohol and diminished prevalence of drunkenness have increased the defensive reaction of the tissues as well as rendered people less liable to infection.

The stress of modern life falls especially upon the nervous system, rendering it more susceptible to pathological, especially degenerative, conditions, and an important question to answer is this: Are the late parasyphilitic (Fournier), metasyphilitic (Möbius), quaternary syphilitic affections (Rosc and Hirschl) more prevalent now than formerly? If so, is it due to the widespread existence of racial immunity

[1] THE LANCET, Dec. 9th, 1911, p. 1615.

and latent syphilis? Seeing that both tabes and general paralysis are incurable diseases and affect especially male adults of civic worth, it is a matter of great social and economic importance to the race to know whether these diseases are on the increase or not. Of 2000 post-mortem examinations made at Claybury 500 were general paralytics. About 40 per cent of the male deaths are due to general paralysis. The riddle is still unsolved why only a small percentage, relatively, possibly 3-4 per cent., of persons infected with syphilis should suffer with one of these degenerations termed parasyphilis. But only 15 per cent. of persons suffering with diphtheria develop diphtheritic paralysis. These are frequently cases in which the local infective process was mild, or even unobserved—in that respect, therefore, like parasyphilitic affections which much more often than not follow mild and even unrecognised primary infections and secondary symptoms. I have been astonished by the fact that in spite of the promiscuous sexual life led by a number of general paralytics I have never seen a primary sore, nor do I remember to have seen a secondary eruption. Of the 500 cases on the post-mortem table I was struck by the fact that the evidence of severe syphilitic lesions was very scanty; in fact, cases diagnosed as general paralysis, with marked signs of gummatous lesions on the body or evidence of coarse paralysis, nearly always turned out to be pseudo-general paralysis due to multiple syphilitic lesions affecting the membranes and vessels, involving secondarily the brain. Again, the experience of Krafft-Ebing so strongly supported the view that if there were no syphilis there would be no general paralysis, that he caused to be inoculated with the virus of a hard chancre nine persons suffering with this disease who had never shown any signs and gave no history. Not one of these was infected, for they showed no signs although they were watched for a considerable time. It was concluded they had an acquired immunity. Why is this? Is it because the virus is attenuated or modified, and thereby has acquired a special neurotoxic action, or is there a particular form of spirochæta analogous to the trypanosome of sleeping sickness which causes the affection of the nervous system, or is it because in a small percentage of individuals the cells of the body, *including the cells of the nervous system (normally protected against defensive reactions)*, offer a hypersensitive reaction to the virus? There are many facts which suggest the possibility of a certain form of virus with a neurotoxic action. Thus, Babinski remarks that it seems possible that a syphilitic virus may sometimes be endowed with a particular aptitude for attacking the nervous system, and instances have been cited which show that infection by a particular woman has led to several, or even more, men with whom she cohabited suffering later with parasyphilis. Probably the most striking example supporting this theory of special neurotoxic virus has been afforded by Brosius, who relates that seven glass-blowers suffered with chancre of the lip, and out of five who came under observation 10 years later four suffered with either tabes or general paralysis. The specific agent, the spirochæta, may exist in some modified form, or it is conceivable that there may be varieties of this protozoal organism, as there are of the malarial parasite or trypanosome. Again, the organism may become modified by the widespread use of mercury. It may thus happen that the virus may vary in different cases of infection. This, however, is speculative, and not only is not supported, but also is to some degree contradicted by experiments on animals. We can therefore, probably on more certain grounds, attribute the variations of the effects which follow infection not only to the variation of the virus, but to the defensive reaction of the individual himself, and we may represent this in the form of an equation—

$$\text{Symptoms } X = \frac{V}{R} = \frac{\text{Virus}}{\text{Resistance.}}$$

If the virus is constant the resistance must vary according to conditions which lead to racial immunity, family immunity, acquired immunity, and general bodily health.

It appears to me that a race long syphilised is on account of a racial immunity more liable to suffer with the late degenerative forms. The interesting description given by Colonel Lambkin of the syphilisation of the natives of Uganda shows how severely a race previously free from this disease suffers from malignant skin, bone, and visceral disease. He also points out that parasyphilitic affections are rare, the reason being that the disease has not existed in the country for a sufficiently long time to allow of their frequent occurrence. According to von Halban, tabes is more common in Abyssinia than it is in Vienna, but then syphilis has been in existence in this Christian country for a long time past. It is probable, therefore, that whereas syphilitic disease of skin, bone, and viscera are far less common in this country, parasyphilis is more common.

Congenital syphilis in the offspring.—It is often asserted that early marriages lead to degeneracy in the offspring. In studying the pedigrees of congenital syphilis I was struck by the fact that the man was very frequently quite young when he married. The sexual instinct had led to his acquiring syphilis when young, and he married young and infected his young wife, with the usual result—miscarriages, still-births, children dying in infancy from convulsions, meningitis, and hydrocephalus, followed later by children that lived but suffered in various ways physically and mentally. This, to the lay mind, would be all put down to the early marriage and imperfect development of the reproductive organs, but nature does not make the physiological mistake of exciting an instinct prematurely. [Here Dr. Mott showed several pedigrees illustrating this fact and others in connexion with congenital syphilis.] About 20 per cent. of the 60 cases of juvenile general paralysis of the insane that I have seen have been the children of general paralytic fathers. As the chances of affection of the two sexes is equal, the two sexes are affected in about equal numbers. About 2 per cent. of the paralytics dying in asylums owe the disease to congenital syphilis. Were it not for the deaths in infancy there would be many more. I have not much belief in the possibility of the male transmitting the disease to the offspring without the mother being affected, and the following facts are in support of this. Twenty-four tabetic woman who were married or had cohabited had only three living children, 19 born dead, and 32 miscarriages. Ten of these 24 were sterile. Now, of 54 married male tabetics or tabo-paralytics 151 children were born alive, 75 were born alive and died in infancy, and there were 52 miscarriages or born dead. This shows that a tabetic father does not transmit the disease to the children unless he infects the wife, for the syphilis from which the 54 male parents suffered has not greatly diminished the number of living offspring as compared with the 4·5 average.

Incidence of tabes.—It is said that women do not nearly so frequently suffer from tabes as men. As in the case of general paralysis, there is, however, a correlation between the frequency of the incidence of syphilis in a class of the population and the incidence of parasyphilitic affections, including tabes. It is said that prostitutes do not suffer with parasyphilis; this is not true. Kron's observations upon 184 public prostitutes showed that 14 per cent. of those syphilitic prostitutes who had reached the age of 25 were tabetic. Although the text-books teach that tabes occurs very much more frequently in men than women, yet I found on visiting a number of the London infirmaries a large number of women bedridden with tabes, and I should estimate that the frequency of occurrence of tabes in women of the poorer classes bore about the same relation as general paralysis—viz., 3 males to 1 female. The reason why such authorities as Erb, who gives 19·5 males to 1 female, and Fournier, 26 males to 1 female, are relatively so high is, I think, due to the fact of the large private practice they do, so that they draw their data from the upper and middle classes mostly, in which syphilis in women is comparatively rare. Mendel's statistics at his polyclinic in Berlin support this conclusion.

Congenital syphilis and its effect on the germ plasm.—An important question from the racial point of view is this: Does syphilis diminish the vital energy of the germ plasm prior to conjugation of the male and female germ cells and cause pathological variations? It is a known fact that toxins weaken cells, and therefore why not germ cells; for although segregated in the body, they are of the body and nourished by the same blood and lymph, and there is consequently reason for supposing that the two most potent and prevalent poisons, alcohol and syphilis, may without killing the germ cells diminish their specific vital energy and thus lead to various pathological conditions of the body and especially of the nervous system. There can be no doubt that syphilis in

the parents may lead to infantilism in the offspring, evidenced by arrest of development of the reproductive glands and absence of the secondary sexual characters. A considerable proportion of the male juvenile general paralytics exhibit this manifestation of deficient vital energy of cells without presenting any coarse and obtrusive signs of syphilis. All the cases of juvenile general paralysis and infantilism that I have seen recently give a positive Wassermann reaction. If syphilis can produce arrest of development of the reproductive organs, there is surely no reason why it should not lead to arrest of development of the most highly differentiated and specialised tissues of the body—viz., the cerebral cortex—or cause pathological variations in its structure and functions. Not long ago I was consulted about a pretty, physically well-developed imbecile child. I could ascertain nothing from the family history to account for the condition. Later I saw the father, who was suffering from arrested syphilitic brain disease, and I then ascertained that he had been infected some years before marriage. His wife had had no miscarriages, and there was no evidence to show that she had been infected. This, however, is no proof, I admit, that she had not had latent syphilis.

There is not the slightest question that if congenital syphilis were not so fatal to infant life the number of people suffering from brain disease from this cause would be appalling. I have seen but very few cases of syphilitic arteritis, gummata of the brain, and meningitis arising from congenital disease as compared with general paralysis, tabo-paralysis, and optic atrophy, pathological conditions which I consider are due to primary neuronic decay. An important question relating to the public health is this: Does syphilis contribute in an important manner to the production of idiocy? Binswanger, whose statistics have been based upon a large number of idiots, gives 9·5 per cent. as certain and 12·2 per cent. probable of one of the parents. Similar results were obtained by Wildermuth. Ziehen gives 10 per cent. demonstrable, and a further 17 per cent. probable. On the other hand, Bourneville holds that congenital syphilis is an exceeding rare cause of idiocy. Langdon Down found it in only 2 per cent. of cases, and Shuttleworth among 1000 idiots at Darenth only found 1 per cent. of congenital syphilis. Telford Smith found only 8 cases with marked evidence of congenital syphilis amongst 580 inmates of the Royal Albert Asylum. Similarly Brown in America only found 1-1·5 per cent. of syphilitic origin. An important piece of evidence relating to this question has lately been forthcoming in the examination of the blood serum of idiots by the Wassermann reaction, which tends to confirm the much higher percentage of the German statistics. I observe, however, that Dr. Dean is taking part in this discussion, and I shall leave him to give his researches in the Serological Institute of Berlin, which certainly support his statement "that it is reasonable to think that many cases of idiocy should be classed with that form of syphilis which manifests itself alone by a selective toxic action on the nervous system." It is a pity that no opportunity has been afforded for the examination of the blood of the idiots in the English asylums, for I feel convinced that syphilis plays a more important part in the production of idiocy and imbecility than is apparent from the English statistics I have referred to. Dr. Topley has examined the blood and cerebro-spinal fluid of a number of clinically syphilitic or parasyphilitic cases of mine at Charing Cross Hospital. All the cases gave a positive reaction of the blood except one, a case of syphilitic arteritis; after a six weeks' treatment with mercury inunction and iodide he gave a well-marked positive reaction; this was paradoxical, but Ehrlich has observed this and termed it "reaction provocative." Another case of ophthalmoplegia externa and interna, which I had a year ago, not examined by him, gave a negative reaction, but the whole of the symptoms cleared up with treatment. Two cases of juvenile general paralysis, one with infantilism, the other with optic atrophy, both gave a positive reaction of the blood and the cerebro-spinal fluid, although there were no obvious syphilitic stigmata. The mothers when interviewed said they had never suffered in any way, never had a day's illness; both gave a positive reaction in all dilutions and this leads me to say that I agree with Neisser as regards Colles's law: the women who suckle their syphilitic offspring and yet do not suffer are, like these two women, examples of latent syphilis. The mother is apparently immune in Colles's law and the child is apparently immune in Profeta's law. The following facts support this conclusion. 1. The researches of Bauer, Engelmann, and Rietschl show that all mothers of congenitally syphilitic children give a positive Wassermann reaction. 2. The researches of Knopfelmacher and Lehndorf show that those women who have given birth to congenitally syphilitic children within four years react positively in the same percentage as latent syphilis. Consequently, in spite of apparent health, the mothers of congenitally syphilitic children are much more frequently syphilitic than has been supposed. 3. The passage of reaction bodies to a healthy mother can only be a passive one, and the positive reaction would rapidly disappear from the blood of the mother after birth of the syphilitic child if their source were the syphilitic fœtus, but it may persist, as we have seen in these two cases, for 15 to 20 years. 4. Bauer, Wechselmann, and Neisser have shown that there may be a positive serum reaction in the mother and a negative of the child. 5. A series of cases have been published by Halberstädter, Müller, and Reichel in which the child at birth showed a negative reaction, and only gave a positive reaction when there were definite objective signs of syphilis; in these cases we can exclude passage of the reaction bodies from fœtus to the mother. 6. Neisser's researches upon apes and anthropoid apes afford no support to the occurrence of a true immunity in syphilis. It is nevertheless a remarkable thing that women with latent syphilis often, as in the case of the two I mentioned, give such a marked Wassermann reaction and have no signs of syphilis. Again, it is remarkable that infants only gave a positive reaction when there were definite objective signs of syphilis. Many people have syphilis and are never treated at all and yet get well; they may show in after life a well-marked positive reaction. Paralytics give a very marked reaction of the blood and cerebro-spinal fluid in nearly 100 per cent. of the cases—97 per cent. at least, and yet the signs of antecedent syphilis are usually slight and often entirely absent. May we not reasonably infer that if the Wassermann reaction is not dependent upon an acquired or inherent defensive immunity reaction it is in some way closely associated with it?

Of the value of the Wassermann reaction in the diagnosis of general paralysis there cannot be the slightest question. Dr. Candler, my assistant, has published two valuable papers proving this fact. The correctness of the results of his work has been proved by the death and post-mortem examination of a large number of the cases that were examined during life.

An important distinction of parasyphilis from syphilis of the nervous system is that syphilis of the nervous system does not give a positive Wassermann reaction of the cerebro-spinal fluid except in a relatively few cases, less than 20 per cent.; whereas general paralysis gives it in nearly every case (97 per cent.), and tabes in less than 60 per cent. Discordant results, in my opinion, depend upon the insufficiency of cerebro-spinal fluid and the quality of the antigen used. We may, I think, interpret the marked reaction of the blood and cerebro-spinal fluid in general paralysis as evidence of the persistence of the reaction long after the specific organism itself has ceased to be present; for no one has ever discovered the spirochæta in the lesions of general paralysis of the insane. Again, no matter how long after the primary infection the onset of the disease occurs (which may be 10-30 years) nevertheless the reaction is intense, in spite of the fact that, generally speaking, the symptoms of infection were mild or even absent. What can this mean but an intense reaction on the part of the body to the specific organism? probably due to an acquired congenital and racial immunity. Schäfer's results show that the time between the primary infection and the onset of the disease is on an average ten years, whether the patient has been treated with mercury or not, which I can confirm; this is a strong support of my contention. Again, we may ask the question whether the metals, arsenic, mercury, and antimony—all of which have a specific action in destroying the spirochæta—do not do so by poisoning or weakening the organisms so that they cannot multiply and thus aid the defensive reactions of the body. But an excessive reaction of the specific organism persisting after energetic treatment

with mercury for years suggests an *over-reaction*, a hypersensibility of the cells of the body which will destroy the durability of the complex nerve cells which are incapable of regeneration. The probability that the nerve cells are drawn into this defensive reaction is evidenced by the fact that the cerebro-spinal fluid contains the globulin upon which the specific bio-chemical reaction of Wassermann depends. Normally the brain is protected against nutritional disturbances of the body causing wasting—e.g., in starvation it hardly loses anything in weight. For this reason I am of opinion that the primary neuronic decay of the nerve cells in this disease is the outcome of a lack of durability caused by a nutritional disequilibration occasioned by an excessive defensive reaction of the cells of the body in which the nerve cells participate. If this theory is true we may expect that those cases of syphilis, in which in spite of all treatment the reaction persists, are more likely to end in general paralysis, particularly if all the additional factors that lead to neurasthenia combine in throwing an extra stress on the maintenance of nutritional equilibrium of the latest and most complex structure in the body—the cerebral cortex. If these premises be accepted as possible, it is to be hoped that the early administration of "606" followed by mercury may in a measure do what mercury alone has in a measure failed to do as regards averting parasyphilitic affections in later life—viz., it may by rapidly and effectually killing off the spirochætæ in the blood and lymph prevent the hypersensitising of the cells of the body and excessive defensive reaction. It will be of great interest to see how far this hypothesis may be true; at any rate, I expect it will lead to discussion of this important question of latent syphilis and the public health.

I have, in conclusion, one other proposition to make, and that is the desirability of a Wassermann reaction of all infants born of parents who are syphilitic, or who are suspect, whether the infant presents symptoms or not; for we have seen that many die from convulsions, meningitis, and hydrocephalus in early life, or later develop optic atrophy or juvenile general paralysis. Moreover, an estimate of the amount of latent syphilis and its influence in the modification of the effects of syphilis in the race could then be arrived at.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.—Care of the Teeth at the School Age.—The Acromion Process during Ossification.

A MEETING of this society was held on June 5th, Mr. J. M. COTTERILL, the President, being in the chair.

Mr. A. A. SCOT SKIRVING showed: 1. A boy, aged 12, six months after transplantation of the left fibula to replace deficiency in the right tibia. In June, 1911, the tibia was subperiosteally resected for tubercular osteomyelitis; healing took place, but no reproduction of bone had occurred after 5½ months. In November five inches of the left fibula were subperiosteally transplanted and firm union has now taken place. The boy can now run perfectly well. 2. A youth, aged 17, after repeated operations on bones of the left leg. He had suffered from chronic osteomyelitis of the left tibia with sinus formation. In August, 1909, subperiosteal resection of five inches of the shaft was performed; sepsis occurred and very limited reproduction of bone. In June, 1911, a length of the fibula corresponding to the gap in the tibia was resected and both bones were wired; non-union resulted. On Nov. 11th both bones were united with Lane's plates, and though the operation was complicated by a Brodie's abscess in the upper segment of the tibia firm union resulted.

Dr. EDWIN BRAMWELL exhibited a case of Myotonia Atrophica. The patient was a single woman aged 36. Three years ago she noticed a slowly progressing weakness of the legs, though six years ago she noticed a stiffness in her hands after being anæsthetised for extraction of teeth. At present there is paresis of the lower limbs affecting the anterior tibial, peroneal, and quadriceps groups, also the sterno-mastoids and face; the infraspinatus muscle seems enlarged; the flexors of the fingers are myotonic, and she has difficulty in opening the fingers after grasping an object; the tendon reflexes are diminished; there is no fibrillation or sensory symptoms; no family history of myotonia, myopathy, or cataract. Two years ago Batten collected 29 cases, and this is the thirtieth.

Mr. J. W. STRUTHERS showed a man, aged 25, after amputation at the shoulder-joint for Acute Arthritis of Shoulder and Osteomyelitis of Humerus associated with Syringomyelia. On admission there was an enormous abscess extending from the shoulder to the elbow-joints with no local pain, the temperature was 103–4° F., and severe toxæmia was present. A condition of Charcot's disease was present in the joint, which was completely disorganised. The arm was removed without anæsthetic.

Mr. CHARLES W. CATHCART exhibited a case of Cerebral Diplegia in a young girl. The patient showed most of the typical symptoms; the speech was thick and almost unintelligible, the hands were markedly contracted, and all the movements were very spasmodic. She had improved in several ways after resection of the adductor tendons and division of the tendo Achillis on both sides, with subsequent treatment with splints and massage. She was now slowly learning to take a few steps.

Dr. G. A. GIBSON exhibited: 1. A female patient, aged 31, who showed well-marked Acromegaly. The disease commenced four years ago with weakness of vision, and soon after enlargement of the hands and feet with protrusion of the lower jaw. There were changes in the size of the lower part of the cranium and face, as well as in the extremities. Partial bitemporal hemianopia was present. 2. A case of Myxœdema in a woman aged 38. She was stolid and apathetic, with malar flush, broadening of hands, and falling out of hair of head, axillæ, and pubis. Marked improvement has taken place within two weeks.

Mr. L. STORROW SHENNAN contributed a paper on the Care of the Teeth in Relation to the Health of Children at the School Ages—the Provision of Special School Dental Clinics. He said: Instead of toothache being the sole condition which requires the attention of dentists we are now beginning to realise more clearly the influence of dental caries in the production of oral sepsis, alveolar abscesses, and of such habits as food-bolting. We are also becoming convinced that caries is almost certainly of etiological importance in inflammation of the tonsil, digestive disturbances, gastric catarrh and ulceration, and severe anæmias. It probably also has an influence in the causation of peripheral nerve irritation, certainly of neuralgia, and even of epilepsy. It seems futile to treat diseases of the alimentary tract in patients whose mouths contain carious teeth, which act as reservoirs of bacteria in surroundings ideal for their development. There must be absorption of poisonous products which affect the whole body very seriously by impairing general nutrition and by lowering its vitality and power of resistance to infections of every kind. Dental defects might aggravate constitutional disturbances and prove a cause of malnutrition and consequent maldevelopment. An individual with carious teeth is incapable of masticating his food sufficiently or of impregnating it well with the salivary juices. Food incompletely masticated remains longer than it should in the stomach; fermentative changes may arise in it and digestive disorders and gastric catarrh follow. The converse proposition that "malnutrition affected the condition of the teeth" is not necessarily true. Perfect teeth are seen occasionally in children who have never used a toothbrush and who live under the most unfavourable conditions. Enormous sums are expended every year in removing people to the country in order that they may breathe pure air. Milk is sterilised in the general endeavour to destroy organisms which might produce disease, yet most people harboured in their carious teeth micro-organisms whose presence rendered all these elaborate precautions more or less unavailing. In tuberculosis direct infection through carious teeth is highly probable, but caries, by inducing a chronic inflammation of the glands draining the area, must favour the spread of that disease. In actinomycosis it is recognised that the ray fungus may gain access to the body through carious teeth. There is a more or less marked relationship between physical and mental soundness. A child suffering pain could not be expected to give its attention to lessons or to learn as well as a child free from pain. Dr. Jessen, of Strasburg, said: "The greater the amount of

dental disease, the worse the development of the child; and the worse the condition of the teeth, the worse the school reports." Statistics from all countries show that dental caries is prevalent in 78 to 90 per cent. of the school population. It is now recognised that national dentistry is a branch of preventive medicine—preventive, moreover, of diseases the seriousness of which becomes more and more apparent with every advance of scientific investigation. In Russia as early as 1879 attention began to be drawn to the care of the teeth of school children. In that year, of 400 school children in St. Petersburg, 72 per cent. had carious teeth. In 1882, amongst the students in one of the towns of Finland 45 per cent. required actual dental treatment. Dr. Palmovitz concluded that the children of the wealthy suffered more from caries than do the poorer classes. Subsequently distinct advances were made, and in 1896 a commission was appointed by the Society of Russian Dentists, who drew up a set of rules for the treatment of the teeth of school children. In Germany a considerable time has elapsed since public opinion was directed to the care of children's teeth. In 1861 the Central Committee of German Dentists offered a prize for the best work on this subject. In 1902 Dr. Jessen established a municipal school clinic which is now worked under the best conditions. The inspections are made at the schools and the pupils are sent to the clinic, chiefly out of school hours. Attention to the teeth of children between the ages of 3 and 6 is compulsory. Pupils with bad teeth are not allowed into the vacation colonies (holiday camps), and they are not allowed to attend school if they refuse to have their teeth attended to. Tooth brushes are provided for children by the school management, and the school dentist demonstrates their use. Lectures are given to teachers and conferences are held to which parents are invited. Inspection charts are sent to the parents, and these contain simple rules for "dental hygiene." As a result of these measures it has been found that the children actually lose less time in undergoing treatment than in absence from school on account of toothache; increased strength, physical, intellectual, and moral, is evident. Many other towns in Germany have followed the example set by Strasburg, and at the present time there are 119 dental school clinics in Germany. In France less has been done than in Russia and Germany. Up to 1909 no attempt was made to introduce dental hygiene in the communal schools. As a matter of fact an existing law prohibits a dentist from entering a school; apart from the teachers only inspectors, cantonal delegates, and doctors may enter. Out of courtesy dental inspection is carried out to a limited extent in some of the colleges and higher primary schools. The fault lies a good deal with the dental profession in France, which is not sufficiently energetic. In the normal schools and boarding schools supported by the State a dental service has been organised. One dentist inspects, while another operates. The pupils are examined twice a year, and charts indicating necessary treatment are sent to the parents. In Sweden Dr. Forberg has insisted on the importance of dental hygiene, and in association with the Swedish Dentists' Society prompt steps have been taken. In 1896 a committee of this society examined dentally 18,000 school children. The results were so serious that conferences were held and lectures were organised for children, parents, and teachers. In 1905 Parliament took up the question, and Stockholm soon had its school dental clinics. In Switzerland there is a dental department at the Polyclinic at Lucerne, in which all school children without distinction are cared for. In Belgium two dentists are employed by the city of Brussels, and the treatment is absolutely gratuitous, though the communal schools alone benefit from this service. The number of pupils attending these schools is 12,000. A municipal clinic is also established at Antwerp. In Canada an amendment of the Education Act in 1907 provided for periodic and systematic examination of the children's teeth. The dentists examine without charging for their services. There are no school clinics and the poorer children receive treatment at the dispensaries and dental colleges. In Australia supervision of the teeth of school children is just being brought to the front. In South Australia a paid dentist attends the wards and neglected children. The Odontological Society of Queensland has approached the Government on this question and has received a favourable reply. In England the British Dental Association in 1901 appointed a commission which examined 10,500 children, of whom 86 per cent. required treatment. Dental inspection of children attending public elementary schools is now compulsory in England and Wales and the question of treatment is now being considered by school authorities. Dental appointments have been made by many Poor-law schools, orphanages, and benevolent institutions. At Cambridge the first school dental clinic was established in 1907. Begun as a private scheme it has now been taken over by the municipality. Elementary school children are treated free of charge. For extractions a room is placed at the disposal of the school dentist in a hospital, the fittings and other treatment being carried out at the clinic itself. At Norwich the board of education furnishes dental aid to children attending the public elementary schools, and the cost is not to exceed a farthing rate. At Bromley, London, a clinic was established in January, 1912, restricted to children between 6 and 8 years, and a fee of 6*d*. per attendance for treatment is paid by the parents. At Deptford there is a clinic subsidised by the London County Council. At Brixton, South London, a clinic was begun in January, 1910, and children attend on two days a week after school hours.[1] In Dunfermline, Scotland, the medical clinic of the Carnegie Trust has been in operation for several years, this being the first public school dental clinic in Scotland. The results have abundantly justified its initiation. The clinic was started in September, 1910. The present surgery is fitted with the most modern appliances, so that work is facilitated in every way. Mr. Shennan has been assisted by two trained nurses and a lady secretary. He gives 12 hours per week to the work. Systematic inspections are restricted to children of 5 to 10 years in the primary departments. Notes of treatment required are entered upon charts. If anæsthetics are required for extractions a special form is sent out. From August, 1910, to December, 1911, there were 1834 attendances of boys and girls. Most attendances were given by children between the ages of 6 and 9 years. The Education Act imposed the duty of inspection of the teeth upon local authorities, leaving treatment optional. Some advocate the establishment of a State Dental Service and maintain that it would not be detrimental to the profession. Others advocate the school dental clinic. The latter should be established in every centre of elementary education, thus attacking the evil through the children as representing the coming generation. The necessity for cleanliness of the teeth as preventive of caries should be emphasised. Even young children could be taught to use the toothbrush. The inspection should be carried out by a dentist. In New York it was found that examination by medical officers detected only one-eighth of the defects found by the qualified dentist. In Edinburgh there is a school population of 40,000 in the 46 board schools. These are dentally examined at the school medical inspection, but no treatment is provided and no relief given. At Dunfermline Mr. Shennan can, working 12 hours per week, examine and treat about 1400 individual children in the school year. On this basis the 25,000 to 30,000 children requiring treatment in Edinburgh could be treated by 18 to 20 dentists working 12 hours per week. This would mean a yearly charge in salaries of say £2500, which corresponded to the proceeds of ¼*d*. rate. This would not include the capital charge of providing appliances and instruments—say £100 to £120 for each centre—nor did it include charges for nurses and secretarial work.—Mr. WILLIAM GUY asked, "What would the cost of school clinics amount to? and How many effective permanent fillings were put in per year? Were nine or ten fillings done in four hours, or were they merely dressings? What would the cost of each effective filling work out at? He had the suspicion that the cost of each filling would be the same as that charged by any competent dentist. He was by no means convinced that the best means was by the establishment of school clinics. In Edinburgh there was a dental hospital where a great deal, if, indeed, not all necessary work could be done at less cost than at school clinics. These children necessarily furnished material for the dental school, and if these were taken away there might be great difficulty in obtaining material for the training of dentists. In country districts or small towns the establishment of school clinics

[1] In the Education Estimates approved recently by the London County Council provision was made for three new centres for dental treatment of 5000 children at an additional cost of £1473. See THE LANCET, May 25th, 1912, p. 1427.

would be an advantage.—Dr. JAMES RITCHIE said that medical men might do much to prevent dental caries. The kind of food given had much to do with the disease. If more hard food was eaten there would be less caries. In one school which he examined 80 per cent. of the boys had carious teeth. A very large proportion of these had received no treatment during the subsequent two years. Those who had had their teeth attended to showed great improvement in the tonsils and glands as contrasted with a greater disease in those unattended. Those with carious teeth in many cases had an unhealthy look.—Dr. W. MACRAE TAYLOR had examined the teeth of 300 young men from 17–30 years of age, and not six of these had a good set of teeth. Their idea was to let the disease go on until it became as bad as possible, and then to have the teeth removed and artificial ones fitted. Soft sweet foods caused caries, and he thought each meal should be ended with some hard tough material.—Dr. THEODORE SHENNAN asked if inflammatory conditions of the gums in infancy had any influence on the condition of the permanent teeth. He said that the higher priced chocolates were more pernicious than the cheaper kinds, as the latter contained some of the husk of the bean. Many of the habit spasms could be cured by attention to the teeth.—Dr. JAMES SMITH said that 957 pupils attending board schools in Edinburgh had individually ten or more carious teeth; 603 had oral sepsis. About 30 per cent. of cases were notified to the parents. Attention must be confined to the necessitous children, as if all children were taken to a clinic there would be no material for teaching dental students.—Mr. J. H. GIBBS said that a great deal of attention was being paid to the problem of the dental treatment of school children, but before committing themselves to the acceptance of the school dental clinic, and all that it meant, it must be made very clear in their minds that the scheme was feasible and for the best. There were two factors which alone made it impossible to establish efficient school dental clinics. The one was the impossibility of financing them, and the other was the non-existence of a sufficient number of dentists, even if they devoted a great deal of time and enthusiasm to the work, to make any tangible impression upon the millions of decayed teeth of the children. Again, it was not in accordance with common sense or with the principles of public hygiene to tinker away with the cure of a disease unless at the same time strenuous efforts were made to eradicate it. Consequently the only justification for the establishment of dental clinics was that they should be primarily centres for dissemination of knowledge as to the prevention of the disease and only secondarily as centres for treatment. The causation of dental caries was known, and it was also known how by very simple dietetic measures the amount of caries could be reduced to very small and almost negligible proportions. The only feasible way of attacking the problem of dental caries in the children of the masses was by prevention, and the cost would be trifling and the educational value enormous. One of the great obstacles to progress along this line was the ignorance, apathy, and even opposition of so many general medical practitioners. One had only to glance at any orthodox book on dietetics to see that the whole teaching was calculated to the production not only of dental caries but of gastro-intestinal and other disturbances. Naturally one could not expect the average general practitioner to be more enlightened than the dietetic specialist, but one must recognise the fact that until medical men discard the suppositions upon which the present teaching of dietetics was based dental caries and many other children's ailments would flourish. The dentist was almost powerless, because the prevention of caries depended upon the proper dieting of the child from birth onwards, and by the time he saw the child caries was usually rampant. They must rely upon the enlightened education of the general medical practitioner for teaching the public methods of dietetics which would be good, not only for the teeth, but for the general nutrition of the child.

Mr. J. W. STRUTHERS made a communication on Some Appearances Presented by the Acromion Process and Upper End of the Humerus during Ossification, with a Note on Separate Acromion Process (with lantern-demonstration). He said that the ossification of the acromion process had been the subject of close observation by surgeons and anatomists. The base of the acromion process, the basi acromion, was ossified along with the spine of the scapula at an early age, while the tip of the process, the epi-acromion, remained cartilaginous till between the fourteenth and sixteenth years. About that time bone began to be deposited in the epi-acromion from a number of separate centres which finally coalesced, and the completely ossified epi-acromion remained separated from the base of the bone by a cartilaginous epiphyseal line until growth was completed at or before the twenty-fifth year. Controversy had chiefly turned on the point as to whether this epiphyseal line ever remained unossified or not. Cases were not infrequently found in the post-mortem or anatomical room where adult subjects showed the epi-acromion separated from the base of the process along a line which corresponded closely to the position of the epiphyseal line during the period of growth. This line was also said to correspond to the usual site of fracture of the acromion process. It had been maintained by some that this separation was always the sequel to fracture with non-union; while others believed that it was due to the persistence of the cartilaginous epiphyseal line. The chief difficulty in the theory of fracture with non-union was the occasional occurrence of the abnormality on both sides in the same subject. It was necessary to assume that the subject had met with a precisely similar injury on each side. Thanks to the X rays they could now observe the ossifying acromion in the living subject, and Mr. Struthers had obtained a series of radiographs to illustrate the ossification of the acromion process. He had recently obtained radiographs which showed apparent persistence of the epiphyseal line in two cases, aged respectively 40 and 50 years, where injury could be clearly excluded and there was no sign of disease, so that he believed the conclusion that this condition was always traumatic was erroneous. The importance of this in clinical work or in medico-legal work, in cases connected with the Workmen's Compensation Act, of accurate interpretation of radiographs, &c., needed hardly to be emphasised. The ossifying acromion presented appearances which had in his experience been misinterpreted, and a review of some of these appearances might be instructive. The slides showed how variable were the pictures given by different qualities of radiograph, and how slight alteration in the position of a limb varied the appearance produced, and consequently mistakes in interpretation might easily occur.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Chronic Eczema.—Œsophagismus in a Child.—Meningitis due to Bacillus Typhosus.

A MEETING of this section was held on May 24th, Sir JOHN MOORE, the President, being in the chair.

Dr. W. BOXWELL showed a case of Chronic Eczema. The patient had been suffering for some years from an irritable skin disease of the whole surface. He discussed the validity of the diagnosis, and suggested the condition might be one of pityriasis rubra. In this the PRESIDENT concurred.

Dr. GEORGE PEACOCKE described a case of Œsophagismus in a Child aged 3 years who had recently been under his care. The patient was admitted to hospital on account of vomiting, which had been more or less persistent for the past 18 months. Vomiting had started after a severe attack of whooping-cough. A brother had died, when 5 years old, from vomiting, which had commenced when 3 months old, and had, with short intervals of freedom, continued through life. The child appeared well nourished, and nothing abnormal could be detected on examination except a loaded colon, which was easily relieved by enemata. Vomiting would occur after a few spoonfuls of food were taken, and the remainder of the meal might be retained. Some days the vomiting was more severe than on others, and the character of the food seemed to make little difference. X ray examination after a small bismuth meal showed the œsophagus full, none of the meal having reached the stomach. Examination with the œsophagoscope did not reveal any growth or stricture.—Dr. R. V. MACVITTIE said that he had met with a similar case in an adult. He submitted a rough sketch of Russell's dilator, an instrument which, he said, he had found useful in his patient, who was a man aged about 40. The œsophagus was capable of containing from 6 oz. to

7 oz. He passed the Russell's dilator, and trained the patient to do so himself after each meal. The patient gradually got better, and finally the condition disappeared altogether.—Mr. F. K. CAHILL said that in a similar case he had devised a dilator himself which he found produced a good effect. He suggested that if Dr. Peacocke's patient were fed for a time by a stomach tube good might be done.—Dr. BOXWELL and the PRESIDENT also spoke.

Dr. J. F. O'CARROLL and Dr. F. C. PURSER communicated a case of Meningitis due to Bacillus Typhosus. The patient, a boy aged 9, had been admitted to the Hardwicke Hospital as a case of typhoid fever. Widal's reaction was obtained on the fifth day of the illness. None of the usual signs of typhoid were present—no rose-spots, no enlargement of spleen, no diarrhœa. On the other hand, the mental condition was most suggestive of meningitis, and headache, retraction of the neck, and Kernig's sign were marked. Typhoid bacilli were grown in pure culture from the cerebro-spinal fluid, which contained as well 1100 leucocytes per cubic millimetre; of these, two-thirds were polynuclear and one-third mononuclear cells. The patient died three weeks after the onset of illness. The membranes over the convexity of the brain were covered with a purulent exudate. Over the occipital lobes the exudate was hæmorrhagic. Bacillus typhosus was separated in pure culture from the exudate. The bacteriological examination was made by Lieutenant T. A. Hughes, I.M.S. There was some slight congestion of the lymphoid tissue in the intestine, and in the right lung were three small patches of bronchopneumonia. The other organs, including the spleen, were normal.—The PRESIDENT said the case illustrated what he had long felt—namely, that any abnormal localisation in a specific poison is bad.

Reviews and Notices of Books.

A Manual of Clinical Diagnosis by Means of Laboratory Methods for Students, Hospital Physicians, and Practitioners. By CHARLES E. SIMON, B.A., M.D., Professor of Clinical Pathology and Experimental Medicine at the College of Physicians and Surgeons, Baltimore, Md., &c. Seventh edition, enlarged and thoroughly revised. Illustrated with 168 engravings and 25 plates. London: Henry Kimpton; Glasgow: Alexander Stenhouse. 1911. Pp. 778. Price 21*s.* net.

THE interpretation of the results of tests carried out by laboratory methods, and the estimation of their value in the clinical investigation of cases, are matters that are not always sufficiently discussed in text-books. Dr. Simon, impressed by the experience that the medical student at graduation may often be a very fair technician and yet not be able to interpret his laboratory findings, has remodelled the construction of his well-known manual. It is now divided into two parts, the first being devoted to technical details of the various tests and processes concerned, while the second deals with the essential factors in the laboratory diagnosis of the various diseases in which this method is of value. The book now consists in effect of a laboratory and of a clinical section.

In the first part general principles are discussed, and full details are given of the most important laboratory methods of diagnosis. The examination of the blood, the secretions of the mouth, the gastric juice and gastric contents, the fæces, the nasal secretion, the sputum, urine, transudates and exudates, the cerebro-spinal fluid, and of the contents of cysts is considered at length in separate chapters. To this part a bacteriological appendix is added, giving information in regard to the preparation of culture media, and the morphological and cultural characters of the chief pathogenic organisms. The instructions given in regard to the carrying out of individual tests, whether chemical, microscopical, or mechanical, are in all cases clear, concise, and adequate. Quantitative methods, where such are available, are described, and full information is given as to the mode of procedure. Where several methods are described, their relative value and their advantages and disadvantages are clearly stated. This part is copiously illustrated, and the assistance so given is uniformly good, adding considerably to the value of the technical descriptions, and aiding in the interpretation of the results obtained.

In the second part, which is new to the present edition, the information afforded by laboratory methods in regard to individual diseases is presented, and its diagnostic significance is discussed. For convenience of reference the various diseases and abnormal conditions are considered in alphabetical order. Under each, the essential factors in the laboratory diagnosis are briefly stated, and then each is considered in detail. To give an example, under the heading of asthma the essential factors from the laboratory standpoint are summarised as—"blood eosinophilia; presence of Curschmann spirals and Charcot-Leyden crystals in the sputum; sputum eosinophilia." Each one of these indications is then dealt with at length. In this manner, what may be called the laboratory features of various diseases are summarised and discussed. The descriptions are in all cases clearly written, explicit, and practical. The laboratory findings in cancer are described with special care, and the special features presented by cancer of the different organs are clearly differentiated.

Dr. Simon's book is well written and the printing and general production are very good. The fact that the present edition is the seventh shows that it has established a reputation for itself. In its revised form it should continue to prove a valuable work of reference.

Scientific Features of Modern Medicine (Columbia University Lectures). By FREDERIC S. LEE, Ph.D., Dalton Professor of Physiology, Columbia University. New York: The Columbia University Press. 1911. Pp. 183. Price $1.50 net, or 6*s.* 6*d.* net.

IN the Jesup lectures delivered in New York in 1911 the author has set forth with conspicuous success some of the striking features of modern medicine, illustrating its genuinely scientific character, its great change from the medicine of the past, and its hopeful outlook for the future. By judicious selection of his topics he has depicted the spirit and progress of modern medicine in language not too technical for the average layman. Though the absence of illustrations may be no disadvantage for the medical reader, they might have been introduced with advantage for the lay reader, for this is a book that should attract the layman's interest and lead to his edification.

Eight subjects are discussed—viz., A Sketch of the Normal Human Body; the Nature of Disease, Methods of Diagnosis of Disease; Methods of Treating Disease; Bacteria and Protozoa and their Relation to Disease; the Treatment and the Prevention of Infectious Diseases; the Problem of Cancer and Other Problems; Features of Modern Surgery; the Rôle of Experiment in Medicine, the Public and the Medical Profession. The sketch of the normal human body is scientific, graphic, and very readable. The liver is pictured as the body's "sugar trust," without, however, accusing that organ of employing the peculiar methods that have made famous its commercial namesake. The two mechanisms for the maintenance of order and harmony are the blood circulation and the nervous systems. The author is a disciple of the mechanistic, rather than the vitalistic, school. He reduces all supposed influence of the mind over the body to brain influence, which, however, may be mirrored in mental acts, and convincingly illustrates the truth that disease is not a specific entity, but a disturbance or perversion of function, by a good account of the heart as a

mechanical workshop and the liver as a chemical one. The newer armamentarium of the physician is described, and the author is very optimistic in the two references he makes to the modern treatment of syphilis by "606." The discourse on bacteria and protozoa is illuminating and well written, the details and principles being skilfully interwoven.

In dealing with the treatment and prevention of disease the importance of animal experimentation is dwelt on, and many facts regarding the serum and vaccine methods are incorporated. Cancer, tuberculosis, and pneumonia are especially considered and contrasted. The features of modern surgery are expounded with a wealth of detail and convincing arguments which leaves nothing to be desired, and the author closes with a powerful appeal on behalf of experiment in medicine.

A Text-book of the Diseases of Infancy and Childhood. By LOUIS FISCHER, M.D. Fourth edition. London: Stanley Phillips. 1911. Pp. 980. Price 27*s.* 6*d.* net.

THE fourth edition of Dr. Fischer's book on the diseases of infancy and childhood contains alterations and additions in connexion with many of the more important matters upon which our knowledge has advanced since the first edition was published in 1907.

The early part of the book, which deals more particularly with the infant, contains a brief mention of the modern work upon the so-called "casein masses" or "curds" of infants' stools. The author points out that it has been shown that the casein masses are not necessarily formed of casein, but are frequently composed of saponified fat and débris; the curds tend to disappear when the sugar content of the food is reduced, even if the casein content is raised, as has been shown by Finkelstein and his school. The chapter on the stools of infants has also been amplified with some of the more modern observations upon this subject. No alterations appear to have been made in the chapter which deals with the feeding of infants and with the amount of food and the number of feeds to be given. Hence the tendency to advocate over-feeding, a tendency which was noticeable in the earlier editions, is perpetuated.

Important new material has been incorporated into the article on meningitis, notably that referring to Flexner's serum treatment of cerebro-spinal meningitis, and Brudzinski's neck sign. This latter appears to be deserving of more attention than is usually accorded to it; Fischer has found it present in 100 per cent. of meningitis cases. This would make it a more reliable diagnostic sign for meningitis than Kernig's sign, which is extensively used, but is certainly not present in this proportion of cases.

In dealing with the diseases of the alimentary canal a description is given of an apparatus devised by Einhorn and used by Dr. Fischer for studying pyloric obstruction. The apparatus consists of a small bucket, which is swallowed, attached to a white silk cord. If absence of pyloric spasm will permit, the bucket passes the pylorus, and on pulling up the cord and attached bucket the cord is found to be stained with bile. If, however, pyloric stenosis is present, then the bucket remains in the stomach and the cord shows no staining with bile. Twelve hours seems to be the requisite time during which the apparatus is left in the infant's alimentary canal. Evidently the value of the apparatus must depend upon the pyloric spasm yielding sufficiently to allow of the passage of the bucket during the comparatively short period of its retention in the stomach. It seems rather doubtful whether this could be looked upon as a reliable means of distinguishing between pyloric spasm and pyloric stenosis. The bucket and silk cord can be replaced by a perforated bucket and rubber tubing attached to an aspirator, by means of which the gastric and intestinal secretions can be studied.

Apart from a few minor additions the book remains almost exactly as it was in the first edition. It contains a number of original observations which add less to its value as a text-book than to its interest as a personal document. As regards subject-matter, the book is as up to date as can be expected in one dealing with a subject that grows with rapidity.

Le Livre du Médecin: La Tuberculose. Par Professor J. CASTAIGNE and Dr. F. X. GOURAUD. Paris: A. Poinat. 1912. Pp. 297. Price 5 francs.

THIS volume forms one of a series of 16—under the title of "Le Livre du Médecin"—relating to certain medical diseases. Each volume of the series deals mainly with the examination of patients and with treatment; the information given, therefore, is chiefly practical, theoretical considerations receiving but brief attention.

The work on tuberculosis commences with a description of the methods used in the diagnosis of the disease. In addition to the routine measures, such as the examination of the sputum, due attention is paid to the value of tuberculin as a diagnostic reagent. With regard to the subcutaneous injection of this substance, the authors conclude that a positive reaction is one of the surest means which we possess of indicating the presence of a tuberculous focus, but that the procedure is not devoid of danger, and they advise, therefore, that it should be used only as a last resource. The main part of the volume is concerned with the therapeutic measures that may be adopted. A large amount of space is devoted to the specific medication of tuberculosis, and the various means that have been introduced are discussed fully and at length and in a manner devoid of prejudice. In drawing up conclusions as to the therapeutic value of tuberculin, the authors maintain that this remedy, if given carelessly, may do harm, but if given with due precautions it constitutes a valuable means of combating the malady. The hygienic treatment is also fully detailed, and the significant but necessary warning is given that there is no climate capable, by itself, of curing tuberculosis. Wherever the patient may be, if a successful result is to be obtained, for some months a carefully regulated mode of life must be adopted.

We have perused this work with pleasure, and find much in it that is worthy of commendation.

Beiträge zur Pathologie und Therapie der Syphilis. Unter Mitwirking von Dr. G. BÄRMANN, Dr. C. BRUCK, Dr. DOHI, Dr. KOBAYASHI, Dr. ERICH KUZNITZKY, Dr. R. PÜRCKNAUER, Dr. L. HALBERSTÄDTER, Dr. S. VON PROWAZEK, Dr. SCHERESCHEWSKY, und Dr. C. SIEBERT. Herausgegeben von Dr. ALBERT NEISSER, ordentlicher Professor an der Universität Breslau; geheimer Medizinalrat. Berlin: Julius Springer. 1911. Pp. 624.

THIS important volume contains the reports of a very large number of observations and experiments made by Professor Neisser and those who have acted with him on syphilis as affecting apes and other of the higher quadrumana in Java, to which country he and his companions made an expedition. The first part deals with the various manifestations of syphilis in apes, and it also contains a report of a large number of experiments in treatment with various substances, especially compounds of arsenic, followed by a very extensive and useful bibliography of the questions dealt with. The second part treats of the serum diagnosis of syphilis, and its value is discussed. This section occupies more than 150 pages; the subject of prophylaxis is discussed and some experiments are described. A section follows reporting the results of

experiments in inoculating various animals with syphilis, both in Java and elsewhere.

For a long time probably this book will form a storehouse from which will be drawn facts for the study of this important disease. The work has been carried out thoroughly, and it is worthy of the names of its authors and editor.

Clinical Methods: A Guide to the Practical Study of Medicine. By ROBERT HUTCHISON, M.D. Edin., F.R.C.P. Lond., Physician to the London Hospital and Assistant Physician to the Hospital for Sick Children, Great Ormond-street; and HARRY RAINY, M.D. Edin., F.R.C.P. Edin., F.R.S.E., Assistant Physician to the Royal Infirmary, Edinburgh. With 13 coloured plates and 146 figures in the text. Fifth edition, revised throughout. London, New York, Toronto, and Melbourne: Cassell and Co., Limited. 1912. Pp. 656. Price 10*s.* 6*d.*

IN reviewing the first edition of this book in THE LANCET of Oct. 16th, 1897, we predicted for it a large measure of success. It has now reached the fifth revised edition, with no less than ten additional reprintings of previous editions. In this edition the chapter on the blood has been remodelled throughout by Dr. P. N. Panton. Dr. Lovell Gulland, Dr. Martin Flack, and Dr. Gordon Holmes have assisted in the revision of the chapters respectively on the respiratory, urinary, and nervous systems, and Dr. James Ritchie has made himself responsible for the chapter on bacteriology. Many alterations have been introduced in the chapters on the alimentary and circulatory systems, while the section on the examination of the gastric contents is essentially new in its present form. Many old diagrams have been replaced by new ones, and new and excellent coloured plates illustrate the chapter on the blood.

This edition, like the preceding ones, is fresh, lucid, terse, and thoroughly up to date, making it one of the best text-books for the student's use in the wards. Further, we would add that in these days, when new procedures and diagnostic instruments are being added daily to medical methods, the practitioner will find it equally useful, if he is desirous of keeping himself up to date in medical diagnostic technique.

Das Bakterien-Anaphylatoxin und seine Bedeutung für die Infektion. Von Dr. HERMANN DOLD, I. Assistent am Institut für Hygiene und Bakteriologie der Universität, Strassburg. Mit 44 tabellen, 6 kurven, und 4 abbildungen im text. Jena: Gustav Fischer. 1912. Pp. 80. Price 2.80 marks.

THIS pamphlet deals with a very interesting portion of the large and important subject of anaphylaxis, which at the present moment occupies a prominent position in bacteriological research. It is at once a record of the researches of Dr. Dold and his co-workers, and a review of the literature of the subject. The writer has, of course, a thesis to sustain, and the work of other investigators is naturally viewed from this standpoint and employed to furnish arguments for or against this thesis.

By the action of the body fluids or bodies contained in blood serum various bacteria yield a non-specific poison—anaphylatoxin, which, when injected intravenously, produces acute symptoms characteristic of anaphylaxis. After an introduction and a description of the technique employed in the research, a list of the organisms from which anaphylatoxin has been obtained is given, and it is pointed out that it is difficult to obtain the toxin from B. tuberculosis, and impossible from streptococci. The conditions for the formation of bacterial anaphylatoxin are then considered in relation to the amount of material, the nature of the organism, and the significance in its production of antigens, antibodies, and complements. The bacterial toxins are compared with those derived from the proteins of other cells and from serum, and it is shown that they can be obtained both *in vivo* and *in vitro*. Experiments with virulent and non-virulent pneumococci show that the variation in virulence of the organism does not affect the anaphylatoxin obtained, nor is bacteriolysis a precursor or an aid to the formation of the toxic material. Friedberger and the author consider that anaphylatoxin represents an intermediate highly toxic decomposition product of relatively non-toxic protein—whether of the bacterial cell or of cellular extracts—which, by further decomposition, passes into a non-poisonous product of simpler constitution. They further hold that some of the general symptoms of infection, such as fever, are due to anaphylatoxin, and that infection is a mild and prolonged form of anaphylaxis. The effects of this non-specific poison would explain the general symptomatology common to a large number of specific infections, whose special features are due to the specific toxins and endotoxins, and this conception throws a new light on the phenomena of bacteriolysis and phagocytosis in relation to immunity.

The paper is a very important and interesting addition to the literature of anaphylaxis.

Handbook of Diseases of the Eye: A Text-book for Students and Practitioners. By HARRY CALDWELL PARKER, M.D. London: Stanley Phillips; Philadelphia: F. A. Davis Company. Pp. 303. Price 8*s.* 6*d.* net.

AS the author states in his preface, this small volume is intended to place before the student and the busy practitioner in a concise manner the results of recent investigations and their practical application. All unnecessary details have been omitted, and yet the common eye diseases and their treatment have been sufficiently described. Generous use of well-known text-books has been made, both in the text and for the illustrations. The borrowed excerpts are acknowledged loyally, and their choice is characterised by discrimination and good judgment. It would have been only too easy to have overladen the work with a mass of undigested material in no way suited to the object in view, but the author's extensive experience as a teacher and, above all, his level-headed outlook have saved him from this danger. The result is a small manual of diseases of the eye, which can be cordially recommended to students and practitioners.

The general scheme of the work differs very little from many other books of its kind. Noteworthy are the short, but lucid, chapters on anatomy, physiology, and bacteriology, which show the sound instinct that treatment of disease must be based upon sure scientific foundations. The examination of the eye and refraction are treated as fully as can be expected, due space being allotted to retinoscopy. The disturbances of the motility of the eyes next receive attention, Worth's and Verhoeff's advancement operations being selected for special description. The following chapters on diseases of the conjunctiva, cornea, and so on, afford little scope for originality, if such, indeed, were acceptable in a small manual. It is sufficient to state that the selection of material is good and the discussions adequate, whilst the treatment advocated is uniformly sensible and to the point. Special attention is paid to tuberculous disease in dealing with diseases of the sclerotic, and tuberculin tests and therapy are discussed. The section on cataract extraction emphasises the importance of the preliminary examination and the preparation of the patient and of the site of operation: the modified Graefe operation, simple extraction, simple extraction with buttonhole of the iris, and extraction in the capsule are described. In iridectomy for glaucoma the author appears always to use a keratome for the section; the more modern alternative operations for

chronic glaucoma are not discussed. There is a very useful little chapter on the relation of the eye and the nose, illustrated by beautiful anatomical photographs from Onodi.

The illustrations throughout are good, though the coloured plates are rather crude. The printing and general *format* are excellent.

Herzmissbildungen. Ein Atlas Angeborener Herzfehler in Querschnitten mit besonderer Berücksichtigung des Atrioventrikularsystems. Von J. G. MÖNCKEBERG, a.o. Professor an der Universität Giessen. 65 plates, 4 text figures, and 114 illustrations. Jena: Gustav Fischer. 1912. Price 30 marks.

Professor Mönckeberg, whose previous researches on the anatomy of the heart are well known, has published in atlas form the results of a prolonged investigation of the arrangement of the auriculo-ventricular bundle in malformed human hearts. He had at his disposal 15 specimens, illustrating both the commoner and rarer forms of cardiac malformation, all of which he cut and mounted in serial microscopic sections—an immense labour. He has drawn the more important sections, and these drawings form the subject matter of the atlas now under review. His results coincide with less elaborate researches carried out by Professor Keith in this country. The sino-auricular node is always present in such hearts and occupies its normal position at the junction of the superior vena cava and right auricle. The auriculo-ventricular bundle is also constantly present, and its situation along the upper border of the septum between the right and left ventricles forms a most reliable landmark in distinguishing the various parts of the malformed heart. Professor Mönckeberg is of opinion that the central fibrous body of the heart—in such hearts as those of the ox and sheep this body is mainly composed of cartilage—is the most reliable guide to the commencement of the auriculo-ventricular bundle and node. The node is always applied to the central fibrous body; near its beginning the bundle perforates the fibrous body. If an interventricular foramen exists the bundle lies on the lower, or ventricular, margin of the opening. While recognising the accuracy and laboriousness of the methods employed by Professor Mönckeberg we think his atlas would have been greatly increased in value if he had added to his illustrations simple outline drawings of the hearts investigated with the position and course of the bundle indicated in these drawings. Even those who are constantly investigating the pathology of the heart find it difficult to form a mental picture of the complete heart by the survey of a mere series of sections.

LIBRARY TABLE.

Organic Chemistry. Entirely new edition by W. H. PERKIN, Ph.D., Sc.D., LL.D., F.R.S., and F. STANLEY KIPPING, Ph.D., Sc.D., F.R.S. London and Edinburgh: W. and R. Chambers. 1911. Pp. 664. Price 7*s.* 6*d.*—The previous edition of this excellent manual was reviewed in our columns nine years ago. Before that it was issued in parts. The story of organic chemistry brought up to date in the new edition is now told in one volume, and we have not read a clearer account of a difficult subject than is here presented. We find no omission of those essentials which must be mastered by medical students and those preparing for an honours degree examination, to whose requirements the book is particularly well adapted. Room has been found for an account (p. 226) of the Grignard reagents, or the magnesium alkyl halides discovered by Grignard in 1903, which have now replaced Frankland's zinc alkyl compounds in the synthesis of various types of organic compounds, on account of the ease with which they may be prepared and of their convenience in experimental work. An excellent chapter (p. 620) has also been added on the cyclo-paraffins and on the configurations of the carbohydrates (p. 606). The book is written by two obviously successful teachers and clear writers.

Zur I.K. Behandlung. Von SOPHIE FUCHS-WOLFRING, Paris, frühere Mitarbeiterin von Dr. CARL SPENGLER in Davos. Wiesbaden: J. F. Bergman. 1911. Pp. 67.—Dr. Sophie Fuchs-Wolfring, of Paris, a former collaborator of Dr. Carl Spengler, of Davos, who introduced the I.K. treatment of tuberculosis, says that the principles upon which it is based are that the red blood corpuscles are the chief carriers of the immune bodies of the blood, and that the immune blood of highly immunised animals and men has proved to be a valuable therapeutic agent in treatment. The immune blood or I.K. treatment is a passive-active procedure, in contrast with tuberculin which induces an active immunisation. It is, therefore, incorrect to refer to Spengler's I.K. agent as I.K. tuberculin, which is not infrequently done. Dr. Fuchs-Wolfring explains the difference in action by stating that after tuberculin a negative phase appears first, while the specific precipitins of the blood sink markedly, even within half an hour, and only reach, and then exceed, their original amount after several days, whereas with I.K. the negative phase is generally wanting, and a rise of the specific precipitins, with a simultaneous decline in auto-precipitation, begins at once. She has collected the published observations of 40 authorities, extending over a period of three years. There is a remarkable diversity of opinion in regard to the value of this method of treatment. Twenty-five of the authorities referred to have expressed themselves favourably, some of them enthusiastically, in regard to the use of I.K.; three recognise a definite specific action, but not in severe cases; the remaining 12 have written against its use. Of these, 3 appear not to have used the substance themselves, 6 have obtained neither good nor bad effects from it, while 3 have seen harm from its use. Dr. Fuchs-Wolfring found that the observers who regard I.K. as an indifferent agent have based their opinion upon 367 cases in all, those who have found it harmful have observed 43 cases, while the observations made by those reporting favourably upon the agent now total several thousand cases. Dr. Fuchs-Wolfring sums up her review strongly in favour of I.K., which she regards as the most effective adjunct to treatment now available. She is obviously strongly biassed in its favour, but she presents her evidence clearly and well.

Zahnärztliche Chirurgie. Von Prof. Dr. Med. FRITZ WILLIGER. Leipzig: Dr. Werner Klinkhardt. 1911. Pp. 142. Price 5 20 marks.—This is a useful little book describing, as it does, in a clear manner the minor surgical operations that come within the province of the dental surgeon. It is, however, questionable whether some of the operations suggested are really necessary; for example, there are 12 illustrations describing the removal of the root of a molar, the operation consisting in the raising of a flap of muco-periosteum, the removal of the bone, the splitting of the root, its removal, and final reattachment of the flap. We are inclined to think that the simple removal of the root with an ordinary pair of forceps would be quite sufficient. The method of removing certain mandibular teeth is not altogether in keeping with teaching here. There is much, however, that is extremely useful in the book.

A Text-book of Medical Chemistry and Toxicology. By JAMES W. HOLLAND, A.M., M.D., Professor of Medical Chemistry and Toxicology and Dean, Jefferson Medical College, Philadelphia. Fully illustrated. Third edition, thoroughly revised. London and Philadelphia: W. B. Saunders Company. 1911. Pp. 655. Price 15*s.* net.—There

is no need to enlarge upon the merits of this work, since that has already been done in our reviews of previous editions. In spite of revision, necessitated by the rapid march of scientific events, the size of the volume has not been increased. Such modern questions as radio-activity, electrons, osmotic pressure, ions, and so forth receive adequate treatment in the light of quite recent developments. In other directions—as, for example, in the clinical sections on analysis in the paragraphs on poisons—the same attention to up-to-date methods and principles is given. The chemico-physiological chapters are beautifully illustrated with coloured plates pourtraying with extraordinary accuracy the colour effects of well-known tests applied, for instance, to the examination of urine, blood, and gastric juice. We keep our good opinion of this book.

How to Live in Tropical Africa: a Guide to Tropical Hygiene and Sanitation. The Malaria Problem: The Cause, Prevention, and Cure of Malarial Fever. By J. MURRAY, M.D. Maps and Climatological Memoranda by E. G. RAVENSTEIN. Edited by LEO WEINTHAL, F.R.G.S., Chief Editor of the *African World*. With illustrations. London: The *African World*, Limited. 1912. Pp. 314. Price 3*s.* 6*d.*—In this book, the first edition of which was reviewed in THE LANCET in 1895, the author sketches the climatological and physical geography of Tropical Africa, and deduces therefrom sanitary and hygienic principles and practice suitable for these regions; lays down a scheme of living, diet, clothing, dwelling, and work; describes the symptoms, etiology, and pathology of the deadly diseases (of which malaria is the deadliest) that have closed Tropical Africa through the centuries to European civilisation, indicating their present-day scientific treatment; and surveys the conditions of existence of Europeans in different regions of Tropical Africa, with a view to their amelioration. The work is divided up into five books, of which the first discusses the geography, the second considers the malarial problem, the third treats of quinine, the fourth is devoted to the prevention of disease, and the fifth deals with miscellaneous problems. The first book contains, amongst other data, information concerning the climates of numerous places in Tropical Africa, the rainfall and winds, the effects of tropical climates on Europeans, to which is added an important note on the neglected subject of terrestrial radiation in relation to health and disease. The seasonal rhythm of the body is also insisted on. The second book traces the history of malarial discovery chronologically in four epochs. In the first epoch (in which, by the way, we note the misprint of κώηωψ for κώνωψ), extending from antiquity to 1880, the observations of Dr. Beauperthuy, of Guadeloupe, in 1853, are quoted to show how close he came to the truth. He rejects the then prevalent miasmatic theory of the causation of malaria and yellow fever, and asserts that remittent, intermittent, and pernicious fevers are all caused by the bite of the mosquito, which "plunges its proboscis into the skin, and introduces a poison which has properties akin to that of snake-venom. It softens the red blood corpuscles, causes their rupture, and facilitates the mixture of their colouring matter with the serum." He missed the fact, however, that the source of the mosquito's poison is infected man, and supposed it to be derived from "extraneous decomposing matter." The second epoch begins in 1880 with Laveran's discovery, the third in 1883 with Manson's, while the final stage is completed by Ross's researches, 1895–9. A clear description is given of the life-history of the malarial parasite and the anopheles, and is followed by notes on blackwater fever and much information likely to be of both interest and utility to laymen. Other diseases considered in this division of the book are bilharzia, guinea-worm, and sleeping sickness. In the third book, on quinine, the treatment of malarial fever is described, Ross's and Manson's methods and that of the German Hospital of Tropical Diseases at Hamburg being given. The fourth book summarises the general principles of sanitation—selection of building sites, drainage, tree-planting and clearing, and so forth—and describes the various measures of prophylaxis against disease, personal hygiene, and domestic precautions. The transformation brought about by scientific sanitation in the Isthmus of Panama is admirably described as an object-lesson. In the fifth book the author discusses the victualling, drink, clothing, and tent and housing problems in Tropical Africa. He gives some interesting information concerning native foodstuffs, and strongly advises the plentiful use of soured milk where obtainable. The opening of cold storage depôts in large African towns, together with (on the West Coast) the supplies of frozen, preserved, and fresh foods carried for sale by the refrigerator steamers of Elder, Dempster, and Co., are materially aiding in the solution of the victualling problem. The clothing problem is very fully considered in regard to such questions as cotton, linen, and silk *versus* woollen garments, head-gear, colour of clothing, shoeing, and so forth. We think the author's axiom sound, that "when the natives wear nothing it appears reasonable that the European should dress in lightest grass cloth or cotton. When the native wears cotton from a sense of cold, the Europeans may need their woollen clothing." The book, which is dedicated to the memory of Sir Alfred Jones, K.C.M.G., of whom it contains an admirable portrait, can be heartily commended to the traveller and dweller in Tropical Africa.

The Prevention and Treatment of Disease in the Tropics. A Handbook for Officials and Travellers, compiled chiefly for the use of Officials in the Sudan. By EDWARD S. CRISPIN, M.R.C.S. Eng., L.R.C.P. Lond., Assistant Director of the Sudan Medical Department. London: Charles Griffin and Company, Limited. 1912. Pp. 95. Price 1*s.* net.—Having in view the purpose for which this little book is intended—to assist those who are stationed or travelling in out-of-the-way parts of the world away from medical aid, in avoiding disease and rendering such aid as they can to the sick and injured with whom they come into contact—we judge it to be a useful little work. The first and most obvious difficulty in dealing with disease is to form a diagnosis. To meet this, the author has arranged his suggestions for treatment under one of the most prominent symptoms for which the patient is likely to seek relief, rather than under diseases by name. The book is divided into two parts, prevention and treatment. The first deals mainly with disease-transmitting insects—mosquitoes, flies, the tsetse fly, ticks, fleas, bed bugs, sand flies, lice, and chiggers—and with personal hygiene. The second part deals with unconsciousness and its causes, pain in various regions and its causes, and the presence of some definite injury or symptom other than pain, such as bites or stings, burns, convulsions, cough, fever, jaundice, wounds, and so forth. In the appendices the use of various medicinal agents and measures is described, and a list of drugs, instruments and appliances suitable for those for whom the book is written is given. We question, however, the advisability of including trional in a lay medicine chest. It is, moreover, not correct to say that treatment "in *all* cases of poisoning" consists, among other things, of removal of the poison by emetics and purges (p. 80). Indeed, the author on the next page excludes emetics in the case of the corrosive poisons. On pp. 35 and 48 "nitrate" of amyl is a misprint for nitrite.

MISCELLANEOUS VOLUMES.

THE current annual edition of the very useful *New and Non-Official Remedies, 1912: Containing Descriptions of the Articles which have been Accepted by the Council on Pharmacy and Chemistry of the American Medical Association prior to*

Jan. 1st, 1912 (Chicago: American Medical Association. 1912. Pp. 298), contains 16 pages of additions. In the preface it is pointed out that the acceptance of an article by the Council does not necessarily imply any recommendation of it, but merely indicates that, so far as is known, it complies with the Council's rules for registration of non-official remedies in reference to non-secrecy of composition, tests for identity, methods of advertising, absence of fraudulent or unwarranted claims, and so on. These rules, with explanatory comments, are given at the beginning of the book. Different proprietary preparations of the same drug are grouped together, so that their relation may be at once distinguished. We would suggest, however, that in future editions those that are included out of their alphabetical order in consequence of such grouping should be printed in different type to indicate that fact; and also that there should be a cross reference in their proper alphabetical places. As it is, the book, while purporting to be arranged alphabetically, has its convenience of reference greatly marred.——*The Prescriber's Guide* is the title of a classified list of medicinal preparations, selected mainly from the British Pharmaceutical Codex, 1911, by the Formulary Committee of the Edinburgh District Chemists' Trade Association (from whom it is to be obtained, price 2*s.* net, post free). It is edited by Mr. THOMAS STEPHENSON, F.R.S.E., the chairman of the committee. Many of the prescriptions are the pharmaceutical alternatives to much-advertised proprietary preparations.——A review of the literature relating to articles included in the U.S. Pharmacopœia and the National Formulary is embodied in a *Digest of Comments on the Pharmacopœia of the United States of America and on the National Formulary for the Year 1909*, by MURRAY GALT MOTTER and MARTIN J. WIBERT (Washington: Government Printing Office. 1912. Pp. 735). It is the fifth of a series of "digests" prepared in view of the revision of the above-mentioned works, and bears witness to the thoroughness of the work of the committee of revision.

Catalogues are often uninteresting books, considered apart from the objects to which they are intended as guides, but this does not apply to the fine illustrated *Catalogue of the Anthropological Museum in the Marischal College of the University of Aberdeen* (Aberdeen: University Press. 1912. Pp. 359. Price 1*s.* net). Indeed, Dr. R. W. Reid, Professor of Anatomy at the University and Curator of the Museum, is to be congratulated on having produced, at a price within the convenience of all, such an excellently arranged and well illustrated guide to the treasures of Aberdeen relating to the habits, customs, and culture of the various races of mankind. The exhibits are arranged in geographical groups, with brief notes in many cases, and a short but useful summary of the ancient Egyptian religion and customs. A good index adds to the utility of the catalogue.——The *Catalogue of the Sir William Macgregor Collection* of objects in the same museum forms the subject of a separate catalogue (same publisher, pp. 23), and although not illustrated bears the stamp of careful compilation.——Although the wages question *per se* does not come within the province of medicine, it has a bearing upon public health. *Clothing and Textile Trades Summary Tables*, by L. WYATT PAPWORTH, M.A., and DOROTHY M. ZIMMERN, M.A. (London: The Women's Industrial Council. 1912. Pp. 32. Price 2*d.*), which consists of tabulated official statistics on the remuneration of women as compared with men in the clothes-making, laundry, and textile industries, gives some useful information bearing on occupations that require a healthy environment in the interests not only of the workers themselves, but also of the community.

The advantages offered by Esperanto to the dissemination of scientific knowledge form one part of the theme of the *Passing of Babel* (London: British Esperanto Association. 1912. Pp. 69. Price 6*d.* net), by BERNARD LONG, B.A. Camb. The author points out that when an important abstruse scientific work is published it interests perhaps 200 individuals of each of the greatest nations. If it were translated into each of these tongues not one of the translations could pay expenses, therefore the work would not be issued; whereas if it were translated into an international language the cost of production would not be great and there would be an adequate international public for the translation. Even when books are now translated into various languages they are far more costly than if they were simply translated into an international language, one edition of which would serve for the whole world. It all depends, of course, upon whether that language is easy to acquire fluency in and capable of expressing without ambiguity all shades of meaning. The author claims that Esperanto does possess both these important qualities, and that the regular system of word formation makes the adoption of such technical terms as are practically international, and the amplification of the technical vocabulary by the introduction of new words formed from Latin or Greek roots but with the really phonetic spelling of Esperanto, a promising medium for the standardising of technical and scientific terms. The booklet discusses the need for an international language, details the origin, spread, and practical qualities of Esperanto, describes its seven international congresses, and sets forth its usefulness to commerce and industry, travel and social intercourse, science, literature, drama, and song. Great claims are also put forward for its educational value, especially as rendering easier the acquisition of the national tongues. A brief grammar is appended.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S. Vol. XLIV., No. 3. May 6th, 1912. London: C. F. Clay, Cambridge University Press. Pp. 125–242 + vii.–x. Price 7*s.*—T. Graham Brown and C. S. Sherrington continue their researches on Reflex Response in the Limbs of the Mammal, and point out the exceptions to the general broad rule that, in reflex movements elicited from the mammalian limbs by stimuli applied to the afferent nerves of the limbs themselves, the movement in the stimulated limb itself is flexion, while that in the crossed fellow limb is extension. In the Chemical Nature of Specific Oxygen Capacity in Hæmoglobin, by R. A. Peters, a historical and critical account of this long-standing and much investigated problem is given. The author finds that the value obtained for the ratio of oxygen to iron is essentially the same in a solution of hæmoglobin of the ox, pig, sheep, and cat, and that this ratio does not vary in the same individual at different times. The oxygen is attached to the iron-containing part of the molecule. The author's results, combined with those of other observers, may be taken as showing that hæmoglobin, at any rate as regards its iron-containing part, is identical throughout the vertebrata. The Relation between Oxidase and Tissue Respiration is considered by H. M. Vernon, who has already done much work on this subject. He finds that experimentally the effects of high temperature and of certain poisons on the gaseous metabolism and the oxidase of the kidney often run parallel. No absolute proof of such relationship exists. The indophenol oxidase of mammalian tissues (kidney, heart, brain, liver) is extremely thermolabile. If a kidney is perfused with oxygenated Ringer's fluid for 11 hours at 17°–35° it shows no loss of oxidase, though its gaseous metabolism sinks to one-third the normal, and as much as 23 per cent. of the tissue protein may be washed away by the perfusing liquid. Minced kidney is much more sensitive to the

action of poisons than intact kidney, nearly twice as much of its oxidase being, as a rule, destroyed by a given concentration of the poison—e.g., methylamine, chloroform, ammonia, or mercuric chloride in saline. G. H. Clark deals with the Influence of Increase of Temperature upon the Inhibitory Mechanism of the Heart of the Frog. The frog was placed in a bath of Ringer's fluid in one series, and in another the temperature of the heart was locally raised by von Frey's temperature point. The medulla was directly stimulated. It requires a stronger stimulus to produce arrest of the heart beat at 26°–35° C. than at 18°. Local application of heat to the sino-auricular junction caused loss or diminution of the inhibitory action. N. Much writes on a Quantitative Study of Histozym, a Tissue Ferment. The histozym was extracted from pigs' kidneys, and according to the author it is probably responsible for the synthesis of hippuric acid in the body. Its power of hydrolysing sodium hippurate is incomplete. By reacting on sodium benzoate and glycin, it produces a substance having the same solubilities as hippuric acid, while it exhibits definite relationship to aromatic metabolism. C. Lovatt Evans discusses the Amyloclastic Property of Saliva. He reports that when amylase acts on starch the products are identical, stage by stage, with those formed by the action of malt. Later in the hydrolysis glucose is slowly formed. The optimum concentration of starch is 3 per cent., and the optimum temperature for salivary amylase is 46°, while the neutrality of materials is important. In a later paper the same author gives a criticism of the methods for the determination of amyloclastic activity. Miss Smedley contributes a short paper on the Action of the Liver on the Simpler Sugars. Various sugars were subjected to the action of minced liver tissue and the results investigated. The substances used were glycollic aldehyde, xylose, and dextrose. F. P. Knowlton and E. H. Starling consider the Influence of Variations in Temperature and Blood Pressure on the Performance of the Isolated Mammalian Heart. For the method employed the original paper must be consulted. The authors find that the rate of the isolated heart fed with oxygenated blood is determined entirely by temperature, being unaltered by changes within wide limits, either of arterial resistance or venous pressures. The rate of beat varies directly as the temperature. Within wide limits the output of the heart is independent of arterial resistance and of temperature and up to a certain point is proportional to the venous inflow. When this point is exceeded the venous pressure rises, and œdema of the lungs supervenes. Keith Lucas contributes a technical paper on a Mechanical Method of Correcting Records obtained for the Capillary Electrometer.

The Child.—Among the articles in the June issue of this journal that on Margaret Byers, LL.D., by her son, Sir John Byers, will be read with interest by members of the medical profession. This remarkable woman, who died in the early part of this year at the ripe age of 80, was the daughter of Andrew Morrow, "a truly religious and philanthropic man, far in advance of his time." She was early brought into contact with people of high principle and keen intellect. Soon after her marriage her husband died, and at the age of 20 with her baby she had to face the world and to earn her living. The thorough education which she had received, however, caused her to be selected out of 120 candidates for the appointment of head-mistress at a ladies' school at Cookstown. Here she remained five years, and afterwards went to Belfast and founded the Ladies' Collegiate School. This undertaking was a success from the beginning. The college has had to be enlarged and rebuilt on two occasions, and each time this was done by the foundress's individual efforts. At the time of Queen Victoria's Jubilee in 1887 the name of the school was changed to Victoria College by Her Majesty's command. In 1905 the University of Dublin conferred upon her the honorary degree of LL.D., and in 1908 she was appointed by the Crown a member of the first Senate of Queen's University of Belfast in recognition of the educational work she had accomplished for girls. Agricultural Training for Public Elementary School Children, by Mr. C. W. Hutt, assistant medical officer of health of the borough of Warrington, shows the possibility of training town-bred children to follow agricultural pursuits; and a description of playground class-work by Mr. H. Bryett proves how well children can be taught in the open air. Dr. F. S. Toogood writes on Summer Diarrhœa and Vomiting, and Dr. H. W. Harding on Physique and the Mental Ability of School Children. Present-day Views regarding Elementary School Planning is the subject of a paper by Mr. P. A. Robson, A.R.I.B.A.

Dr. Heyl has succeeded the late Dr. Aschenborn in the Medical Department of the Ministry of the Interior, Berlin, and has been promoted to the rank of Medical Privy Councillor.

THE CORONERS' SOCIETY OF ENGLAND AND WALES.—The annual banquet of this society was held at the Holborn Restaurant on June 6th. The chair was occupied by Mr. C. Luxmoore Drew, coroner for London. Among those present were the Attorney-General, Sir Luke White, M.P., Mr. A. Macmorran, K.C., the chairman of the Control Committee of the London County Council, Sir John Tweedy (President of the Medico-Legal Society), Mr. Guy Stephenson (Assistant Director of Public Prosecutions), and Mr. Whitaker Thompson (Mayor of Kensington). After the customary loyal toasts had been duly honoured, Mr. T. E. Sampson, coroner for Liverpool, in proposing the toast of "The Imperial and Local Government," referred to the good work done by the Local Government Board. While the general Government also was doing good work, it was doing it hurriedly and without adequate thinking out. Mr. Sampson disapproved of legislation so hastily carried that it necessitated the relegation of matters of great importance to a committee to be selected later. He also referred to the effort now being made to improve the laws relating to coroners. Sir Luke White, replying for the House of Commons, deplored the fact that many matters ripe for settlement and legislation were neglected for party questions. Legislation respecting coroners was not following on the heels of the labours of the Commission as it should, but he hoped that the time was not far distant when Parliament would consider the laws relating to the coroners. Mr. Whitaker Thompson also replied in a witty speech. Mr. Kershaw, in proposing "The Coroners' Society," said that in these days the necessary qualifications of the coroner were well-nigh universal in scope, and embraced everything from the clouds to the sea. Mr. S. F. Butcher, coroner for Bury, Lancashire, proposed the toast of "The Guests." Sir John Tweedy replied, as also did Mr. Guy Stephenson, who spoke of the great assistance often rendered to his department by the coroners. He referred to the report of the departmental committee on coroners which urged some very necessary reforms relating to coroners, and he instanced the case of a man who was run over in Berkshire by a motor-car and was taken to the nearest hospital in Buckinghamshire, where he died. This led to much discussion as to where the trial of the man who rode over him should take place, in the county where the running down occurred or in that in which the victim died. The police of the county that failed to secure the trial of the case regarded it as a personal affront. The toast of "The Officers of the Society" was then drunk. During the evening excellent music was provided, under the direction of Mr. W. Mansell Stevens, by Miss Edith Trevor and Mr. William Doe, and Mr. Arthur Helmore gave selections from his *répertoire*.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

WEDNESDAY, JUNE 5TH.

THE Council resumed its sittings at its offices, 299, Oxford-street, W. Sir DONALD MACALISTER, the President, was in the chair.

Penal Cases.

The Council proceeded to deal with the penal cases.

The first was the consideration, adjourned from May 26th and Nov. 28th, 1911, of the case of James Robertson Wallace, registered as of 68, Jermyn-street, London, S.W., M.B., M.S. 1885, Univ. Edin., who had been summoned to appear before the Council on the following charge:—

That you have associated yourself in your professional capacity with an institution, termed the Sandow Curative Institute, which systematically advertises for the purpose of procuring patients who are to receive, either by correspondence or by attendance at the said institute, treatment for disease under the personal direction of Eugen Sandow, who is not a registered medical practitioner, and that you have approved of and acquiesced in such advertising.

And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the British Medical Association. At the conclusion of the proceedings on May 26th, 1911, the following decision of the Council was announced by the President:—

Mr. James Robertson Wallace: I have to inform you that the facts alleged against you in the notice of inquiry have been proved to the satisfaction of the Council, but that the Council, in order to give you an opportunity to reconsider your position, has postponed judgment in your case till the next session, when you will be required to be present and to produce evidence as to your conduct in the interval.

And at the conclusion of the proceedings on Nov. 28th, 1911, the following decision of the Council was announced by the President:—

Mr. Wallace: The Council are not satisfied with the evidence as to your conduct which you have produced to-day. They have accordingly decided to give a further opportunity of producing more satisfactory evidence regarding your professional conduct; such evidence ought to be testified to by medical practitioners or other persons of position, who may be acquainted with your practice and conduct in the interval. With this object they have again postponed judgment on your case until the next session of the Council.

Before the case was considered, Dr. MacDonald, Mr. Verrall, Dr. Gibson, and Dr. Saundby, as members of the British Medical Association, the complainants in the case, withdrew from the Council.

Mr. Wallace did not appear in person, but he was represented by Mr. A. Neilson, his counsel, instructed by Mr. Guildford E. Lewis, solicitor.

Mr. Alfred Cox, the medical secretary of the British Medical Association, appeared on its behalf, accompanied by Mr. Hempson, solicitor.

Mr. NEILSON addressed the Council on behalf of Mr. Robertson Wallace. He said that he would put forward considerations why the Council should not proceed to extreme measures in the case of Mr. Wallace. After the finding of the Council had been pronounced a year ago Mr. Lewis, who was solicitor to the three practitioners who had been brought before the Council in connexion with this case, wrote a letter directed to the Registrar of the Council. In it he sought for assistance in order to know in what way it was possible for the two gentlemen who remained on the Register to conform to the canons of medical etiquette which the Council found that they had broken, in order that in future they might so conform to the rules. Mr. Lewis wrote that Mr. Sandow was prepared to cease advertising altogether, and to put the institute under the control of a medical man altogether. He had removed the two features which had seemed to him were the gravamen of the charge against these medical men—namely, the association with an institute which advertised systematically and the enabling of an unregistered person to be said to treat diseases. A reply was received from the solicitor of the Council the next day, in which he stated that he was instructed to say that the Council were not able to enter into the steps which the clients of Mr. Lewis should take. That was not an unreasonable request to make to the governing body of a great profession, to which the profession might look for guidance. He thought that Mr. Wallace was entitled to make some complaint that no such assistance was given. If that was the extent of the assistance which the Council were prepared to give to members of the medical profession it put the practitioner in a great difficulty. In that condition of things Mr. Wallace had to find for himself what the gravamen of the charge was, and what was in the minds of the Council. Accordingly, taking the complaint which was made against him in detail, and considering the observations which had been made by Mr. Smith Whitaker, who then appeared for the British Medical Association, he came to the conclusion that the two points against him were—(1) that there was advertising, and (2) that he enabled an unregistered person to practise. Having arrived at that conclusion, he set himself, with the assistance of Mr. Sandow, to remove this cause of offence. Advertising ceased completely. Mr. Wallace was in complete charge and control from that date until November. At the November session the case was again adjourned by the Council, and again Mr. Wallace was left without guidance from it. Mr. Wallace considered the situation, and the result of his considerations were directed in a communication to the Registrar. He stated that he was unable to discover anything dishonourable professionally or otherwise with the Sandow work, and he desired to state then rather than wait until the expiry of six months that he intended to continue his work. That was the position which Mr. Wallace instructed him to take for him. It had not been pointed out in what respects during the six months after his first appearance before the Council his conduct had been unsatisfactory. Mr. Wallace was unable to find out where the fault lay. He (Mr. Neilson) was present to invite the Council to take what course it thought proper.

The PRESIDENT: Are you prepared to submit any evidence as to Mr. Wallace's conduct in the interval?

Mr. NEILSON: No, sir.

Mr. COX then addressed the Council on behalf of the complainants. He contended that the course which Mr. Wallace had taken up in letters in the public press amounted to an attitude of defiance of the Council. If Mr. Wallace and his colleagues had come to the British Medical Association, they would have advised them what to do, and that was to cut their connexion with Sandow. The Council had told Mr. Wallace to produce more satisfactory evidence about his professional conduct, but he seemed to have preferred to take his own line. He submitted that there was good evidence that Mr. Wallace was still with Sandow. Sandow was still advertising and therefore the conduct complained of was still going on.

The PRESIDENT said: I have to state the decision of the Council as follows:—

That Mr. James Robertson Wallace, having been proved to have associated himself in his professional capacity with an institution termed the Sandow Curative Institute, which systematically advertises for the purpose of procuring patients who are to receive, either by correspondence or by attendance at the said Institute, treatment for disease under the personal direction of Eugen Sandow, who is not a registered medical practitioner, and having been proved to have approved of, and acquiesced in, such advertising, the Council do now judge James Robertson Wallace to have been guilty of infamous conduct in a professional respect, and to direct the Registrar to erase from the Medical Register the name of James Robertson Wallace.

The Council considered the case of Elizabeth Bielby, registered as of Magdala House, Beverley, Yorks, L., L.M. 1885, K.Q.C.P. Ireland, M.D. Berne 1885, who had been summoned to appear before the Council on the following charge:—

That you have, with a view to your own gain and to the detriment of other practitioners, employed or sanctioned the employment of an agent or canvasser for the systematic distribution of cards containing your name, address, medical title, and hours of consultation, for the purpose of procuring persons to become your patients, and that in particular you caused to be so distributed in the month of March, 1912, systematically from door to door in Beverley, in the East Riding of the County of York, some 2300 of such cards. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the Medical Defence Union.

Miss BIELBY attended, and was accompanied by Mr. C. W. Hobson, solicitor.

Dr. BATEMAN represented the complainants. He narrated to the Council the particulars on which the charge was founded.

Mr. HOBSON, on behalf of Miss Bielby, said that the facts alleged against her were admitted without the slightest reservation. This lady had for many years been practising in Lahore, India. She had done admirable work there which had been publicly acknowledged by the Viceroy. Miss Bielby in India had used cards similar to the ones complained

of. When she came to Beverley she in her ignorance thought that the same practice might be followed here. She had no guilty intent, and the mere fact that so large a number had been distributed openly here showed her absolute ignorance of the gravity of what she was doing. The moment she discovered it from information given to her by a professional man she took immediate steps to stop the distribution and collected those which had been distributed. Miss Bielby had acted without any guilty intent, and she now tendered her most ample apology for what she had done. Every medical man in Beverley had signed a memorial saying that they believed that his client had no wrong intent. Her act was a pure act of inadvertence.

Miss BIELBY said that she unreservedly expressed her extreme regret.

Dr. BATEMAN remarked that Miss Bielby was ready to tender her regret to the Medical Defence Union, but they had been unable to accept it, as they felt that the Council was the statutory body to which it should be addressed.

The PRESIDENT said: "Miss Bielby, I have to inform you that the Council have found that the facts alleged against you in the notice of inquiry have been proved to their satisfaction, but they have taken note of your unreserved apology in your letter of explanation for the action complained of, and the fact that you had taken steps to remedy that action before the complaint against you had been made to the Council. The Council, therefore, do not see fit to direct the Registrar to erase your name from the Medical Register."

The Council had before it a report from the Dental Committee on a charge against a dental practitioner, but the Council directed it to be referred back for further inquiry and report.

Public Health Diplomas.

Sir JOHN MOORE submitted a report by the Public Health Committee (1) on exemptions granted to candidates for the Diploma in Public Health by the medical authorities during the year 1911, and (2) on the regulations of the University of Wales for its Diploma in Public Health.

The report was in the following terms:—

I. Exemptions were granted to nine candidates during the year—in all cases by Universities. The University of Liverpool granted exemptions in two cases, the University of London in two cases, the University of Leeds in two cases, the University of Aberdeen in two cases, and the University of St. Andrews in one case. The instances of exemption granted by the Universities of London and Aberdeen do not seem to come within the purview of the Council.

II. The Committee having carefully considered the Regulations for the Diploma in Public Health of the University of Wales, find that they are in strict accordance with the Resolutions and Rules regulating the granting of Diplomas in Sanitary Science, Public Health, or State Medicine, adopted by the General Medical Council on Dec. 1st, 1911. The Committee accordingly recommend the Council to resolve that the Diploma in Public Health of the University of Wales deserves recognition in the Medical Register in accordance with Section 21 of the Medical Act (1886).

Sir JOHN MOORE, in moving that the report be received and the recommendation therein adopted, said that the summary in regard to exemptions was very satisfactory. There were 21 bodies giving Diplomas in Public Health, and of those 16 granted no exemptions whatever. The explanations offered by the other five bodies had been satisfactory to the committee.

Dr. NORMAN WALKER seconded.

The motion was agreed to.

Report of the Finance Committee.

Mr. TOMES submitted the report of the Finance Committee. It contained the following passages:—

The Finance Committee beg leave to report that the income of the General and Branch Councils for the year ending Dec. 31st, 1911, was £7710 13*s.* 11*d.* The expenditure during the year was £9080 14*s.* 3*d.* Consequently there was a deficit of £1370 0*s.* 4*d.* The income of the General Council was practically the same as in 1910, as was also that of the branches, excepting in regard to fees. Registrations produced £162 *more* in England, but £292 *less* in Scotland; so that there is a diminution of £129 under this head. The Irish branch receipts from fees were stationary. In the finance report of last year attention was drawn to the diminution in the number of those entering the profession, and the committee observe that the students registered in 1911 were 263 less than in the previous year, and nearly 200 less than the average of the previous five years. This means that in about five years' time the Council's annual income will be diminished by something like £1000.

The total deficit for the year is £1370, and, as the General Council draws on the branches for all its expenses, it can never be short of funds so long as they possess sufficient reserves; the loss, therefore, falls on the branches. Had it not been for the elections of Direct Representatives the total deficit would have been £497, as against £296 in 1910, and although this is far from satisfactory it is not so serious that it cannot in future be turned into a surplus by careful economy and reasonably good fortune. The English branch was unfortunate in having to pay the cost of two contested elections; and, although every care was exercised and considerable sums were saved as compared with other years, the total cost was £774. In 1906 the English election cost £507, as against £411 and £363 respectively for the two elections in 1911. The Scottish and Irish branches were spared contested elections, but they were, nevertheless, put to expenses of £42 and £57 respectively. Although the accounts have shown a deficit for the past four years, the committee are not without hope that the state of affairs may be improved in future, provided no abnormal cause for expenditure arises. The balance between surplus and deficit is very nicely adjusted (the average deficit for the last seven years being £61), and if a careful watch is kept over the normal expenditure there is no reason why there should not be a small surplus in most years. Abnormal expenditure, such as that on protracted or numerous penal cases, or on urgent meetings of committees, cannot be foreseen or avoided; but the committee at present see no reason for expecting a deficit at the end of this year.

Mr. TOMES went on to comment on the report. It spoke of economies. The Registrar had been endeavouring to effect economies, and he had done so in many directions. He (Mr. Tomes) wished to acknowledge the very good hard work done by the Registrar in this respect.

The report was received, and a recommendation to make a grant of £150 to the Irish Branch Council was agreed to.

Appointment of Committees.

The following nominations of the Branch Councils for the following committees were adopted by the Council:—

Examination Committee.—Dr. Taylor, Dr. Saundby, and Dr. Caton (England); Sir Thomas Fraser, Dr. Gibson, and Sir David McVail (Scotland); and Sir John Moore, Sir Charles Ball, and Dr. Kidd (Ireland).

Education Committee.—Dr. Norman Moore, Sir G. Philipson, and Sir F. Champneys (England); Dr. Mackay, Mr. Hodsdon, and Dr. Knox (Scotland); and Sir A. Chance, Sir C. Nixon, and Dr. Little (Ireland).

Public Health Committee.—Dr. Lorrain Smith, Dr. Newsholme, and Dr. Latimer (England); Dr. Norman Walker, Dr. Cash, and Sir D. McVail (Scotland); and Sir John Moore, Dr. Adye-Curran, and Dr. Kidd (Ireland).

The Resolutions as to Registration of Students.

Dr. MACKAY presented a report by the Education Committee (1) revising the resolutions of the Council in regard to professional education and the regulations for the registration of medical and dental students, and (2) on the recognition of the preliminary examination of the Apothecaries' Hall, Dublin. He went on to move that the resolutions of the General Medical Council in regard to the registration of medical and dental students as recast in Section A of the Education Committee's report be approved. He said that all the committee had done was to make the changes demanded by the Council, here and there to simplify the wording of the regulations, and to make a little alteration in the order of the regulations.

Dr. NORMAN MOORE seconded.

The PRESIDENT, in reply to some discussion, said that in the recognised teaching institutions at which medical study might be commenced no case would be recognised by the Council where evening classes alone had been taken.

The motion was agreed to.

The Resolutions on Professional Education.

Dr. MACKAY then moved that the resolutions of the General Medical Council in regard to professional education as recast in Section B of the Education Committee be approved.

Dr. NORMAN MOORE seconded.

The debate on the motion was adjourned and the Council rose.

THURSDAY, JUNE 6TH.

The Council resumed its sittings at its offices, 299, Oxford-street, W. Sir DONALD MACALISTER, the President, was again in the chair.

The Resolutions on Professional Education.

Consideration was resumed on Dr. Mackay's motion:—

That the resolutions of the General Medical Council in regard to professional education as recast in Section B of the Education Committee's report be approved.

The PRESIDENT said that the members of the Council would remember that the remit to the Education Committee was not to make any substantial alterations in the regulations as they stood, but to bring them into harmony with the resolutions of the Council.

Dr. MACKAY observed that certain matters had been

suggested by Sir Thomas Fraser relating to possible alterations in the regulations. He (Dr. Mackay) proposed to consult the members of the Education Committee in order to ascertain whether they would be able to agree to the suggested alterations. The motion might be agreed to on the distinct understanding that any alterations subsequently made in the course of the session might be incorporated in the regulations.

The motion was then agreed to.

The Apothecaries' Hall, Dublin, and a Preliminary Examination.

Dr. MACKAY then moved that the Council should adhere to a recommendation of the Education Committee that the Council should not recognise the Preliminary Examination of the Apothecaries' Hall, Dublin. He said that application for recognition had been made for this examination. In the year 1903 the Council had adopted a recommendation of the Education Committee deprecating strongly the re-adoption of a preliminary examination by the Apothecaries' Hall, Dublin. The idea which had governed the Council in these matters was that all preliminary examinations in general education should be conducted by responsible educational bodies, such as universities and the education departments in England, Scotland, and Ireland. Whilst that was the ideal of the Council it was for the present compelled, owing to local circumstances, to recognise the preliminary examination of the Royal College of Physicians of Ireland. This preliminary examination was retained for special reasons, but the Council had thought it would be a retrograde step to go back and accept other examinations.

Dr. NORMAN MOORE seconded.

Dr. ADYE-CURRAN said that he could not understand why the Apothecaries' Hall, Dublin, should be made a target to be shot at in this way. The Council had permitted the Royal College of Physicians of Ireland to continue their preliminary examination, but it had "sat upon" the Apothecaries' Hall. There were no educational bodies in Ireland which could take over the preliminary examination. The Intermediate Board was the only body which was able to take over this work, but it had told the Council that it could not conduct the necessary examination. It was a downright injustice to the Apothecaries' Hall, Dublin, that its examination, which was on all fours with the examination of the Royal College of Physicians, should not be recognised. It was conducted by University professors. He had raised this matter before, and he thought that if the Council refused to accept the preliminary examination of the Apothecaries' Hall as a temporary measure they would be doing a great injustice to the body which he represented.

The PRESIDENT stated that what was now asked for by the Apothecaries' Hall, Dublin, was that an examination which had been long discontinued should be re-established and recognised by the Council. The Apothecaries' Hall might ask any qualifications it desired from its Licentiates, but what was now asked was that the Council should indicate to all the licensing bodies of the United Kingdom that the preliminary examination of the Apothecaries' Hall was one which they might accept as indicating a good general education. But no hardship would fall upon the Apothecaries' Hall if the Council declined to say to the other bodies that the examination was one which they should accept for their Licentiates. The other question which Dr. Adye-Curran had raised concerned the fairness of the Council. He thought that the patience with which members had heard year after year the same speech delivered in regard to the Apothecaries' Hall was evidence that they were ready to look for any new light with regard to this Hall. No new light had been shed, and in the absence of it, it was surely consistent on the part of the Council to say that they did not depart from their policy. It was said that the number of the students of the Apothecaries' Hall, Dublin, was increasing. How many entered for the first examination of the Apothecaries' Hall?

Dr. ADYE CURRAN: None.

The PRESIDENT: Then there is no question of a preliminary examination.

Dr. ADYE-CURRAN: We intend to hold it.

The motion was agreed to.

Dr. ADYE-CURRAN then moved:—

That with reference to the opinion expressed by counsel, the Preliminary Examination of the Apothecaries' Hall of Ireland be approved of and scheduled by this Council as a temporary measure until such time as the question of preliminary examination is more definitely settled.

Dr. LANGLEY BROWNE seconded.

The motion after a short discussion was rejected on a show of hands.

Preliminary Examination.

Dr. MACKAY submitted the following report from the Education Committee in regard to the standard to be observed in the preliminary examination of medical and dental students in general knowledge after the close of the year 1913.

The Education Committee report that they have approved the following resolutions:—

I.—THE CHARACTER OF THE EXAMINATION.

(*a*) In languages each examination shall be of not less than two hours' duration; and, if it includes questions on prescribed books, of not less than three hours' duration. In mathematics (which should include arithmetic, algebra, and geometry) the examination should be of not less than three hours' duration.

(*b*) In each examination the questions should be such as to test, not merely knowledge, but a power of intelligent application of knowledge. In English the paper should include an essay and a paraphrase: also questions testing a knowledge of grammar, English history, and geography. In classics and modern languages each paper should include at least one passage of some length from an unprescribed book for translation into English; an English passage of some length (except in Greek), and a few short idiomatic English sentences, for translation; and questions on grammar. In arithmetic and algebra most of the questions and problems should involve some thought and intelligent knowledge of the principles underlying the rules. In geometry most, if not all, questions should include a simple rider as an essential part.

(*c*) In languages, questions on prescribed books should form not more than a third of the paper.

II.—THE DISTRIBUTION OF MARKS.

In English not less than a third of the marks should be allotted to the essay and paraphrase. In classics and modern languages not more than a third of the marks should be allotted to questions on prescribed books; and at least a half of the marks should be allotted to "unseen" translation and prose composition. In arithmetic and algebra the allotment of the marks among the questions should be, as far as possible, proportional to their difficulty. In geometry at least about half marks should be assigned to the simple rider attached to each book question.

III.—THE STANDARD OF MARKING.

All examinations should satisfy the General Medical Council, by such supervision and organisation as may seem to them practicable, that the marking of examiners is conducted with due stringency and accuracy, and is adjusted to the standard at which the examination aims.

IV.—THE MINIMUM PERCENTAGE OF PASS should be:—

(*a*) Latin, 50 per cent.; Greek, 45 per cent.; (*b*) modern languages, 50 per cent.; (*c*) English, 50 per cent.; (*d*) mathematics, 45 per cent.

V.—THE MINIMUM STANDARD AT WHICH THE EXAMINATION SHOULD AIM.

In each subject the minimum standard and range of questions should approximate as nearly as possible to the standard and range of questions in the papers of the intermediate examination of the Scotch Education Department.

VI.—No pass should be granted in any subject when the percentage gained in the subject is less than that which is stated above.

VII.—The whole examination should be passed at one, or not more than two sittings; but candidates should be allowed to present themselves for re-examination as often as may be necessary to enable them to satisfy this condition.

The above proposals shall be regarded as instructions for all examining bodies and examinations at present recognised by the General Medical Council, except those of Government and University bodies, and they shall come into force on Jan. 1st, 1914. The proposals shall also be sent to all the Government and university examining bodies, and these bodies shall be requested to state how far, in their opinion, their respective examinations meet the requirements contained in the proposals, and how far it would be desirable or possible for them to make modifications in their examinations to that end. All the examining bodies shall be requested to furnish yearly to the Education Committee copies of the papers set at their examinations during the year, for which the return is made.

In moving that this report should be received Dr. Mackay went on to say that the committee did not go the length of asking the Council to adopt the report in all its details. The proposals in it were not intended to be brought into operation until nearly two years. They had been approved by the Education Committee, and it was its wish that the report should be entered in the minutes of the Council. By this means publicity would be given to this important report, and it was hoped that all the licensing bodies might communicate their observations on it to the committee in the course of the current year. The substance of these communications could be brought before the Council before the changes were made. The members of the committee thought that it was of the highest importance that the members of the Council should now be informed as to the general purport of these changes. The general scope of the examination the committee suggested should remain as before. In one or two matters alteration was proposed. It would be recollected

that the Council had decided to remove from its list the "junior" examinations before the end of 1913. It was probable that many bodies might substitute a higher form of examination for them if they knew the Council's wishes. The changes in this matter must be made cautiously. He referred to various points in the report. If "compensation" marks were restricted to the matter of a few marks something might be said for the practice. It had been carried to a far greater extent than that, and the committee found that a candidate who had only 11 per cent. in one subject had by compensation marks got through the examination because of the high marks he obtained in other subjects. The General Medical Council was pledged to the hilt to raise the standard of the preliminary examination. This was a small step in that direction.

Dr. NORMAN MOORE seconded.

The further discussion of the motion was adjourned.

Penal Cases.

The Council then took up the consideration of the case of Darabshaw Fardoonji Sanjana, registered as of the Hampden Residential Club, Phœnix-street, London, N.W., but practising at Kelty, Fife, L.R.C.P. Edin., L.R.C.S. Edin., L.F.P.S. Glasg., 1901. He had been summoned to appear before the Council on the following charge:—

That you have employed as your assistant in connexion with your professional practice a person—namely, D. Drysdale—not duly qualified or registered under the Medical Acts, and have knowingly allowed him on your behalf to attend and treat patients in respect of matters requiring professional discretion or skill, and to sign and issue on your behalf medical certificates in respect of such patients.

In particular that you have:—

(1) Knowingly authorised or allowed the said D. Drysdale at various times while in your employment at Kelty, Fife, as your assistant to attend and prescribe for patients, and take fees for so doing in your surgery and at their own houses, and on a number of Saturday afternoons to finish your rounds, attend the surgery, and take any fresh cases during your absence on such afternoons in Edinburgh.

(2) Knowingly authorised or allowed the said D. Drysdale to attend and examine patients for you, and to sign for you medical certificates of various kinds—namely: (a) for sick allowance from the British Order of Ancient Free Gardeners, "Kelty Blossom" Lodge, for John Redmond (four), William Nicoll (four), Robert Williams (two), John Rankine, Robert Bunyan, George Turner, Andrew Fotheringham, James Beveridge, Arthur Morrow, Henry Hutchison, John King, and Archie McKay; and (b) in respect of workmen's compensation for Alexander Ramage and John Coonie. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the British Medical Association.

Mr. Sanjana attended, and was accompanied by his solicitor, Mr. James Currie MacBeth.

Mr. Alfred Cox, the general secretary of the British Medical Association, represented the complainants. He was accompanied by Mr. Hempson, solicitor.

Dr. Saundby, Dr. Gibson, Dr. MacDonald, Mr. Verrall, and Dr. Lorrain Smith, as members of the British Medical Association, withdrew from the Council.

Mr. ALFRED COX called evidence in support of the charge.

ALBERT JOHN ROBINSON, Kelty, stated in evidence that on Saturday afternoons Drysdale had taken the patients and attended to them. Cross-examined, he admitted that he never was in any house where Drysdale was with any patient.

WILLIAM ARNOT, secretary of the "Kelty Blossom" Lodge, stated in the witness-box that he had taken certificates signed "Dr. Drysdale" on the assumption that Drysdale was a qualified medical man. The sick steward of the lodge kept the forms and gave them to the sick member, who presented them to the doctor to fill up.

Cross-examined, WITNESS stated that there was a considerable amount of feeling in Kelty when Mr. Sanjana came there to practise. The certificates were signed "D. Drysdale pro Dr. F. Sanjana."

SETTINIO CARRIERI gave evidence to the effect that he had driven Drysdale to see patients on Saturday. He admitted in cross examination that he had never been in a house when Drysdale was seeing them.

Mr. MACBETH called Mr. Sanjana as a witness in his own defence. Witness stated that he had sent a letter to the Registrar of the General Medical Council in reply to a request for an explanation.

Mr. MACBETH then read the letter, which contained the following passages:—

Mr. D. Drysdale was employed by me as a dispensary and surgery attendant, and not as an assistant. He was kept to dispense medicine and to be present whole day in the surgery, owing to a special request made by the local committee of miners, to avoid people waiting long time as it was the case when the dispensing was done only in the mornings and evenings.

I could not have used him as an assistant even if I had wished to do so, as he had no knowledge of medicine, except dispensing and dressing.

It is true that on rare occasions I sent him to some convalescent patients, under pressure of work, but it was only to take their temperature or dress wounds, &c.

To my knowledge he has never attended any new cases or treated them.

He signed some school children's certificates to keep them at home from school, and some of the club certificates for men, but never in his own name, but "For Dr. Sanjana, D. Drysdale." Practically in every case in which a certificate was granted I had myself seen the patient, and Mr. Drysdale merely acted as my clerk in writing out the certificates upon my directions, and to save my time.

I am sorry that I was not aware that this was contrary to any statute or amounted to professional misconduct.

I assure you that I have every desire to do my work within the letter and spirit of the statute and of the rules of the profession.

Mr. Drysdale left me nearly two months ago and was altogether with me about three months.

If I have done anything wrong against the rules of the Council in my ignorance, I sincerely apologise and undertake that it will not occur again, as I will not keep anyone in the surgery but a fully qualified man.

I shall be glad if you will inform me whether what I have done as described above is contrary to any statute or rule of the General Medical Council or any rule of etiquette of the profession.

Mr. MACBETH also read the statutory declaration of Mr. Sanjana, in which the latter stated that he had never during the whole time Drysdale was with him knowingly allowed him to attend and advise patients in respect of matters requiring professional knowledge or skill. In general, what he allowed Drysdale to do in the way of attending and treating patients was nothing more than what he would have been justified in allowing a nurse to do—for example, dressing wounds, taking temperatures, or putting drops in the eye. He never was allowed to attend new cases. Drysdale's duties in the surgery were confined to dispensing and dressing. When he was away in Edinburgh on Saturday afternoons Drysdale's duties were of the very simplest nature, such as was done every day by district nurses. He had no authority to prescribe or give advice. If any serious cases arose in his absence Drysdale had instructions to call in either of two medical men with whom he (Mr. Sanjana) had an arrangement. Drysdale left him about the middle of February, 1912, owing to a breakdown of health, and would not be able on that account to give evidence before the Council. At the time of his (Mr. Sanjana's) appointment the village of Kelty was divided into two factions, those who supported him and those who did not. His opponents had been very bitter.

The further hearing of the case was postponed until the following day.

The Council adjourned.

FRIDAY, JUNE 7TH.

The Council resumed its sittings at its offices, 299, Oxford-street, W. Sir DONALD MACALISTER, the President, was in the chair.

Penal Cases.

The Council resumed consideration of the charge brought against Mr. D. F. Sanjana.

Mr. MACBETH addressed the Council on behalf of Mr. Sanjana.

Mr. HEMPSON (in the absence of Mr. A. Cox) reviewed the circumstances of the case on behalf of the complainants.

The PRESIDENT announced the decision of the Council as follows: Mr. Sanjana, I have to inform you that the Council have deliberated on your case, and have found that certain of the facts alleged against you in the notice of inquiry have been proved to their satisfaction, and in particular that you have—

(1) Knowingly authorised or allowed D. Drysdale at various times while in your employment at Kelty, Fife, as your assistant to attend patients, and on a number of Saturday afternoons to finish your rounds, and attend the surgery during your absence on such afternoons in Edinburgh; and that you have

(2) Knowingly authorised or allowed the said D. Drysdale to attend and examine certain patients for you, and to sign for you medical certificates of various kinds.

The Council take a serious view of the facts thus found to be proved against you; but in order to give you an opportunity of showing that your professional conduct is henceforth to be without reproach, they have postponed judgment on the facts as found until the November session of the Council. At that session you will be required to attend, and you should then produce evidence regarding your professional conduct testified to by medical practitioners and other persons of position who may be acquainted with your practice and conduct in the interval.

The Council then considered the case of John Jeeves, registered as of 163, Cemetery-road, Sheffield, Mem. R. Coll. Surg. Eng. 1889, Lic. R. Coll. Phys. Lond. 1889, who had been summoned to appear before the Council on the following charge:—

That you have on numerous occasions knowingly and wilfully assisted a certain person not registered as a dentist—namely, Leo Patrick Barry, of 402, London-road, Sheffield, in performing operations in dental surgery by administering anæsthetics on his behalf to persons coming to him for treatment and particularly to one George Johnstone in February, 1912. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the British Dental Association, who were represented by Mr. R. W. Turner, instructed by Messrs. Bowman and Curtis-Hayward.

Mr. Jeeves was present in person.

Mr. TURNER read extracts from the depositions at the inquest on George Johnstone. He said that it appeared that Mr. Jeeves had administered anæsthetics at the request of the unregistered man.

Mr. JEEVES said that he was sorry for what had happened. He had not realised that he was doing wrong in giving anæsthetics for Barry.

The PRESIDENT said: Mr. Jeeves, I have to inform you that the Council has found that the facts alleged against you have been proved to its satisfaction. The Council is of opinion that it is the duty of a registered medical practitioner to ascertain that an operator is a duly registered dentist before administering anæsthetics for him. The Council takes a very grave view of the action of practitioners who administer anæsthetics for unregistered persons. It has, however, postponed judgment in your case till the November session, when you will be required to produce evidence, satisfactory to the Council, as to your professional conduct in the interval.

The Teaching of the Preliminary Sciences.

Sir HENRY MORRIS moved:—

That a recommendation to the following effect be added to the Council's resolutions relating to professional education:—

"That six months' instruction or more at a teaching institution (other than a medical school) recognised by one of the licensing bodies and approved by the Council may count as six months, and no more, of the curriculum of professional study, provided such instruction is subsequent to the date of passing the required preliminary examination in general education."

He said that this motion if carried would affect one of the recommendations which were now issued to medical students. The recommendation to which he alluded was that "the first four of the five years (curriculum) should be passed at a school or schools of medicine recognised by any of the licensing bodies enumerated in Schedule (A) of the Medical Acts, 1858, and subsequent Acts, provided (*a*) that the first year may be passed at a university or at a teaching institution recognised by one of the licensing bodies and approved by the Council where the subjects of physics, chemistry, and biology are taught." His motion would secure that the time that would be passed at a medical school would be four years and six months.

Dr. MACKAY seconded.

The motion was agreed to.

Professional Study and Examinations.

On the motion of Sir THOMAS FRASER it was agreed that "pharmacology and therapeutics" should be substituted for "therapeutics" in the list of subjects which should be contained in every course of professional study and examination, and also that "anæsthetics" should be added to the list of subjects.

Fifth-year Study.

Dr. SAUNDBY moved to delete the following paragraph from the resolutions of the General Medical Council in regard to professional education as revised on June 4th, 1912:—

The regulations of the examining bodies and of the schools should be so framed that attendance on systematic courses may be concluded at the end of the fourth year of study so as to permit of the student devoting the fifth year to clinical work.

He said that this resolution was passed by the Council some years ago in the sanguine belief that it would be possible to carry it out. He did not think that many of the examining bodies had found that it was possible to put this regulation into operation. It had been necessary to put certain classes into the fifth year because no other time could be found for them. The Council ought to recognise how much time was given to clinical work in the second, third, and fourth years of the medical curriculum. The students at his university had the lectures in the afternoon, as the forenoon was devoted to clinical work.

Dr. GIBSON seconded. He concurred with what Dr. Saundby had said.

Sir JOHN MOORE said that he gave the most strenuous opposition to the motion. He was a teacher of many years' standing. Owing to lectures in the fifth year hospital work was neglected.

Dr. MACKAY expressed the hope that if the resolution were deleted the Council would make it clear that it was not interfering with clinical work in any way.

Sir W. WHITLA thought that in the fifth year of his study the student was in a position to derive great benefit from lectures on medicine and surgery. He saw no reason why the resolution should remain standing amongst the resolutions of the Council.

The motion was agreed to.

Preliminary Examinations.

The debate was resumed on Dr. Mackay's motion that the report by the Education Committee on the standard to be required for the preliminary examinations after 1913 should be received. This motion was brought forward on Thursday, June 6th.

Dr. SAUNDBY said that as an examiner of some years' standing he thought that it was deplorable to find the large amount of illiteracy that prevailed amongst medical students. The Council had had reports from the Army Medical Board in regard to the ignorance of the candidates who presented themselves. All who examined for final examinations felt that they had to pass men into the medical profession whose standard of education was discreditable. The examiners were conscious that they were examining in medicine and surgery and not in English composition and spelling. If the examination were in English and spelling the candidates would be "ploughed." They found candidates who would write a letter in a way which he did not like to see a member of the medical profession doing. Was the report now brought forward by the Education Committee likely to remedy matters in this respect? He thought not. He wanted the assurance that candidates should have a proper knowledge of English and spelling. It was not a question of percentages. It was a question of not permitting those whose previous school education was so defective to pass the preliminary examination. What he wanted to do was not merely to raise a standard of marks but to see that candidates did not pass who had not the proper knowledge and education. He did not think that the report of the Education Committee did in any way insist upon the necessity of change in this examination, and he would therefore move as an amendment that it should be referred back to the Examination Committee.

Sir ARTHUR CHANCE seconded the amendment.

Sir CLIFFORD ALLBUTT remarked that he did not know how far it was the function of the General Medical Council to undertake, however indirectly, to improve the chaotic state of secondary education. The Council as a whole—he did not speak of individual members—was not an expert on secondary education, and he thought that the members might be going beyond their duties if they undertook to remedy the defects of what had been very truly called the chaotic state of secondary education. He felt very strongly the fallibility of examination tests. The Council had heard some very strange observations how a candidate had passed with 11 per cent. of marks in one subject. However, it was an experience of which the members of the Council were aware, that sometimes a young man waked up under the influence of the universities or technical schools, and although he showed certain defects in the forms of literary accomplishments, he suddenly developed new traits and qualities which were very precious to him in after life. He thought that the Council should keep that in mind in connexion with the very fallible test of these examinations. It might be wise for the Council, quite provisionally and somewhat indirectly, to pass rules in regard to this matter. However, members should think that these were of a provisional kind. They must look forward to a better organisation of secondary education for some guarantees that young men had passed

through a test, and when those were forthcoming it would not be the concern of the Council to look behind it.

Dr. NORMAN MOORE directed the attention of the Council to the report of the committee of the Board of Education for investigating the whole subject of examinations in secondary schools. That committee, on which he had sat, had recommended the establishment of a widely representative examinations council which should supervise all external examinations in recognised secondary schools throughout England. The committee had further suggested as a first step towards the formation of such a council that the Board of Education should invite representatives of the various examining authorities to a conference for the discussion of the administrative questions involved in the change of examination system. The committee made it plain that in the event of this appearing impracticable it did not consider that the Board of Education would be relieved from the obligation to proceed in the matter of reform. The diversities of examinations were really ruining secondary education. It disorganised the classes if the boys in one school had to be prepared for five or six different examinations. It was undesirable that the General Medical Council should undertake minute discussions about points in preliminary education which it thought important. When some reform took place the Council need have no doubt that it would be after careful consideration. The various points would have to be considered thoroughly, not only in reference to the medical profession, but in reference to the universities and to other professions. The Education Committee of the General Medical Council was not a body in itself which was competent to do that.

Dr. KNOX thought that it was desirable that the report of the Education Committee should be received so that it might be circulated to the various bodies. Certain examinations ceased to be recognised by the Council at the end of next year, and the bodies were anxious to prepare a reformed examination which might satisfy the Council.

Sir C. NIXON asked what possible advantage could be gained by putting the report on the minutes of the Council when the various points in it would have to be all considered over again.

After further discussion,

The PRESIDENT said that he thought all the members of the Council agreed that the provision of secondary education in England was chaotic at the present moment. They were agreed that the Government or somebody else should step in and coördinate secondary education, and if possible establish something like a leaving certificate. That certificate might be in two grades—one higher and leading to the universities, and the other intermediate. Probably an intermediate leaving certificate would be adequate for the purposes of the medical profession at present. He thought that the Government should secure that the certificate was not merely the result of an examination, but also the result of an accredited course of study preceding the examination. If a suitable intermediate or leaving certificate were established in England the work which the Council had carried on in regard to preliminary examinations for 50 years would be done. Of course, the Council could accept that certificate. In Scotland there existed two such certificates which had their recognised value as methods of admission to certain universities and to professional courses. What the Education Committee were suggesting to bodies which had not the advantage of having that coördinated system was that the intermediate certificate standard which was recognised in Scotland was appropriate as the corresponding standard for England—that the examination standard in England should be equivalent to the examination standard in Scotland. Something must be laid before the bodies which they could answer.

Sir THOMAS FRASER observed that he declined to take so gloomy and despondent a view as Dr. Saundby of the attainments of students who submitted themselves to examinations.

Dr. SAUNDBY said that he admitted the educational position of Scotland was better than that of England. That was the reason why Sir Thomas Fraser did not agree with him. He (Dr. Saundby) could only speak of matters as they came under his personal notice. The Council was, however, being asked to pass the report for the information of certain Scottish bodies.

The PRESIDENT said that the body in Scotland whose examination was concerned was not a medical body. It was the Educational Institute of Scotland. Its junior examination would not be up to the Council's standard in 1914, and it wanted to know what to do to meet the case.

Dr. MACKAY reminded the Council that no action would be taken with regard to any actual change until the whole matter was again submitted to the Council.

Dr. Saundby's amendment was lost on a show of hands.

Dr. Mackay's motion that the report should be received was agreed to.

The Pharmacopœia Committee's Report.

On the motion of the PRESIDENT the following report from the Pharmacopœia Committee was received :—

From Nov. 20th, 1911, to May 31st, 1912, the number of copies of the British Pharmacopœia (1898) sold by the publishers was 441. The total number of copies sold in the year beginning May 21st, 1911, was 1002; the annual average demand is, therefore, maintained. Up to the present time 44,015 copies of the Pharmacopœia and 4516 copies of the Indian and Colonial Addendum have been sold. The stock of the Pharmacopœia now in hand numbers 998 copies; it will probably suffice to meet the demand during the next 12 months.

Dr. Tirard and Professor Greenish, as editors, have prepared for the committee a first draft of the monographs on tinctures, &c., and on materia medica for the new issue. The manuscript will be considered at special meetings during the summer.

A Committee of Reference in Botany, consisting of Lieutenant-Colonel Prain, C.B., and Mr. E. M. Holmes, and a Committee of Reference in Chemistry, consisting of Sir T. E. Thorpe, C.B., and Professor J. J. Dobbie, have been appointed for purposes of consultation with regard to botanical and chemical questions respectively.

The Council adjourned.

SATURDAY, JUNE 8TH.

The Council resumed its sittings at its offices, 299, Oxford-street, W. Sir DONALD MACALISTER, the President, was in the chair.

Indian Medical Study and British Qualifications.

A report by the Examination Committee, together with the chairmen of the Education Committee and the Students' Registration Committee, on the question of the admission of members of the assistant surgeon branch of the Indian subordinate medical department to examination for British qualifications, was received. It contained a number of recommendations.

Sir DAVID MCVAIL moved the adoption by the Council of the first recommendation of the report. It was in the following terms :—

That the Council advise the Licensing Bodies to refuse recognition to the first, second, and third examinations of Indian diplomates, in regard to which this Council has not been able to obtain satisfactory evidence of the standard required.

He said that the report which the Council had just received was the result of very careful prolonged work. The question which the framers of the report had in their minds was what could this country do in securing to India an adequate medical service, both civil and military. The system of medical education and examination in the United Kingdom was the result of nearly a hundred years of experience, and what must be regarded as a very satisfactory condition of medical education and registration had been arrived at in this country. It was not perfect, and there was room for improvement in certain directions. But this highly organised system here was being touched by the condition of affairs in India. This country had taken charge of hundreds of millions of people in India, and it had become necessary that this country should assist as far as possible in the creation of a sufficiently trained body of medical men in India. It could not be expected that this body at once should come up to British requirements. The report before the Council was to a certain extent proposing conditions for men from the Indian schools which were different from the conditions that applied to the schools in Great Britain and Ireland. In India there were admirable universities which could grant degrees in medicine. The teaching and examination in them were in every way admirable. In addition to graduates, there were licentiates in medicine and surgery. Most of the latter had had a four years' course of study, but some of them had had a five years' course. The India Office had supplied the Council with the curriculum as it applied to these licentiates. Looking at the extent of the curriculum, it would be quite impossible to say that it was inferior to any fairly constructed curriculum in this country. There were two subjects not included in it—physics and biology. That could be supplemented when the men came to this country without very great difficulty. In India there was a subordinate

medical department. It also had a four years' course, and the course of study was practically the same as for the licences, but its members passed quite a different kind of preliminary examination. Many of them did not pay class fees at all, but were taught at the Government's expense. They were not intended to take the place of the licentiates or the graduates of the universities. The subordinate branch was divided into two or three divisions, and in regard to the lower divisions the committee had no information of any of the men in them coming to this country to seek diplomas. The position of affairs therefore was this. The degrees of the universities were entirely unexceptionable. The licences in medicine and surgery were good also. The question which the Examination Committee had before it was what recognition should be given to the examinations for Indian diplomas. This could only be provisional because India was advancing as regarded education by leaps and bounds. The India Office had supplied the examination committee with full information of the medical curriculum which was applicable to military pupils under training in all the colleges for the assistant surgeon branch of the Indian Subordinate Medical Service. The committee had come to the conclusion that the scope of the final examination was undoubtedly sufficient. As to its standard, as it had not been inspected no opinion could be given by the committee. The chief value of these questions was that of assisting in the estimation of the character of the preceding examinations, as no licensing body in the United Kingdom was now likely to accept any final examination but its own. Class examinations alone in such subjects as anatomy and physiology could not be regarded as sufficient in the United Kingdom. The Examination Committee therefore recommended that the Council should advise the licensing bodies to refuse recognition to examinations that were class examinations only. In a letter of date August 5th, 1909, to the Registrar of the General Council, Lieutenant-Colonel Lukis (now Director-General Sir Charles Pardey Lukis, K.C.S.I.) recommended that in every case of an Indian candidate presenting himself for examination at a licensing body he should be required as evidence of study to present class certificates in each of the subjects of examination. A form of class certificate had been devised by the Government of India. The Examination Committee recommended that the bodies in this country should require that the Government of India should see that any student who had done his work in the class at the individual colleges should get such certificate as he deserved. The Government of India asked the Council that only certificates drawn on the lines of the approved form should be accepted. Therefore the two main points of the committee's report were: (1) that class certificates should be required; and (2) that recognition should be refused to examinations which were class examinations only. Undoubtedly there should be a preliminary examination passed, which should be at least equal to a preliminary examination in general education here. Now came the question of the relaxation which the committee had to recommend the Council to yield to these Indians. Any student beginning a course of medical study here in order to obtain registration must continue it over a period of five years. In the case where men came from India and produced those certificates, and also evidence that they had studied in India for four or five years, and asked admission from a licensing body in this country, the committee recommended the Council to be content with two years of medical study in the United Kingdom in addition to the years of study vouched for in the certificate. The committee, however, asked no relaxation in the matter of class certificates or in the matter of examinations. But the committee did recommend the Council that it should inform the licensing bodies that a two years' course of study in this country in addition to the course which these men had undergone in India should be regarded as sufficient.

Dr. LANGLEY BROWNE formally seconded the motion.

The PRESIDENT remarked that the Council should keep in mind that there were Indian diplomas which were now on the British Register. About the qualification required for these diplomas there was no question whatever.

After some discussion the recommendation proposed by Sir David McVail was adopted with this addition: "This restriction does not apply to holders of Indian diplomas which are registrable."

The other recommendations brought forward by the Examination Committee were adopted by the Council in the following form:—

2 That all candidates belonging to the "Indian Subordinate Medical Department," who apply for registration as medical students, be required to produce evidence of having passed one of the preliminary examinations in arts recognised by the General Medical Council.

3. That no certificates of attendance or examination, but those drafted by the India Office, of which copies are printed as an appendix to this report, should be received.

4. That all the licensing bodies be enjoined to require the production of such certificates.

5. That under no circumstances should the medical course in India of such candidates be accepted as equivalent to more than three years of the five years' medical curriculum of the Council's regulations.

6. That all such candidates be required to take at least two years of study in the United Kingdom, and that the subjects of study in these two years shall include the subjects numbered VII.—XV. in the Council's Regulations—viz., Pathology, Therapeutics, Medicine, Surgery, Midwifery, Vaccination, Forensic Medicine, Hygiene, and Mental Disease.

The PRESIDENT said that it was clear that the Council had in its mind in adopting these recommendations only medical grades in India where the curriculum extended at least to four years. It would be made clear to the licensing bodies that the Council, in approving these recommendations, had only had under its consideration "the question of the admission of members of the assistant surgeon branch of the Indian Subordinate Medical Department to examination for British qualifications."

Final Examinations of the Apothecaries' Hall, Dublin.

A report was received from the Examination Committee on the Final Examinations of the Apothecaries' Hall, Dublin.

Recognised Teaching Institutions.

A report from the Students' Registration Committee was received.

Dr. NORMAN MOORE moved that the resolutions of the committee in regard to applications for the approval of certain recognised teaching institutions be adopted by the Council. Those resolutions were:—

(1) That satisfactory evidence as to visitation having been received, Berkhamsted School, Bury Grammar School, Clifton College, the Edinburgh Academy, Eton College, Haileybury College, Marlborough College, Merchant Taylors' School, St. Paul's School, Sherborne School, Stonyhurst College, Tonbridge School, Uppingham School, and Wolverhampton School be added to the list of recognised institutions approved by the Council.

(2) That the Stafford County Technical School (day classes) and the Royal Dental Hospital, London, be added to the list of recognised institutions approved by the Council.

(3) That the Leeds Public Dispensary be approved by the Council as an institution at which dental study may be begun.

Dr. CATON moved—

That no further additions be made to the list of secondary schools approved by the Council as recognised teaching institutions until the Council has had the experience of some years regarding the effect of the recognitions already granted.

He said that memorials from the Universities of Edinburgh, Sheffield, and Liverpool had been received disapproving of the principle of giving recognition to teaching institutions of this kind for the purposes of the preliminary sciences. These schools did not afford in his view the training which was needed by the medical student in these subjects. The teaching afforded contained a great deal which the medical student did not want, and omitted very much of what he did want. It was not suitable for the purpose of leading the student up to physiology, pathology, therapeutics, and other medical subjects. If the training was only preliminary it would be admirable, but if it was to be the whole training it was absolutely defective. He was glad that the year's training in these schools had been cut down to six months. He did, however, look forward with great concern to the progressive addition of schools of this kind to the list of recognised institutions, and he would like to see the whole policy reversed. That was quite hopeless at present, but the Council at least should have some experience of institutions which had already been recognised before it extended the list.

Dr. LORRAIN SMITH seconded the amendment.

Sir CLIFFORD ALLBUTT spoke of the experience of the University of Cambridge, where many students came with a knowledge of the preliminary sciences. They were carried on to advanced physics and chemistry. If that were not allowed there would be difficulty in completing the university course in five years.

Sir THOMAS FRASER said that it had been found undesirable at the University of Edinburgh that the medical student should be taught chemistry and physics, for example, as the

engineering or metallurgical students were taught the subjects.

Mr. PYE-SMITH supported the amendment.

Sir HENRY MORRIS said that the education in these recognised institutions would be modified to meet the character of the examinations which their students would have to pass.

Dr. NORMAN MOORE protested that if the amendment were passed it would be a very serious blow at the character of the Council for consistency as a deliberative body.

The amendment was rejected by 19 votes to 3.

The motion was then agreed to.

Bicentenary of the Dublin University Medical School.

It was agreed that the President and Dr. Norman Moore should represent the General Medical Council at the bicentenary of the Medical School of the University of Dublin.

The Prevention of Unqualified Practice.

Dr. LANGLEY BROWNE made a statement in regard to the work of the Unqualified Practice Prevention Committee. The Government, he said, had in the past year passed no further legislation for the protection of the public in regard to unqualified practice. A Select Committee of the House of Commons had been appointed to inquire into the subject of patent medicines and appliances and advertisements relating thereto. The Council had been asked to give evidence before the Committee, and he had been asked by the Unqualified Practice Prevention Committee to do so. He would be glad if any member of the Council could give him documentary evidence to put before the House of Commons Committee.

A resolution was passed formally authorising Dr. Langley Browne as chairman of the Unqualified Practice Prevention Committee and other members of the committee to give evidence on behalf of the General Medical Council.

Reappointment of Registrar.

Mr. Norman King was reappointed Registrar to the General Medical Council.

Conclusion of the Session.

The programme of business having been exhausted, the proceedings of the session came to a conclusion with a vote of thanks to the President for his services in the chair.

The Council then rose.

New Inventions.

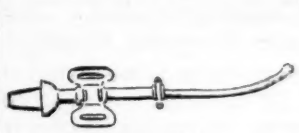
IMPROVED APPARATUS FOR THE ADMINISTRATION OF HEDONAL.

THE paper by Mr. Charles M. Page in a recent number of THE LANCET[1] will probably draw general attention to the use of hedonal as an anæsthetic in all classes of surgical work. Since Mr. Lawford Knaggs introduced the method at the Leeds General Infirmary it has been used there 252 times. In private work I have found it of great value in a certain number of cases, about 20 in all.

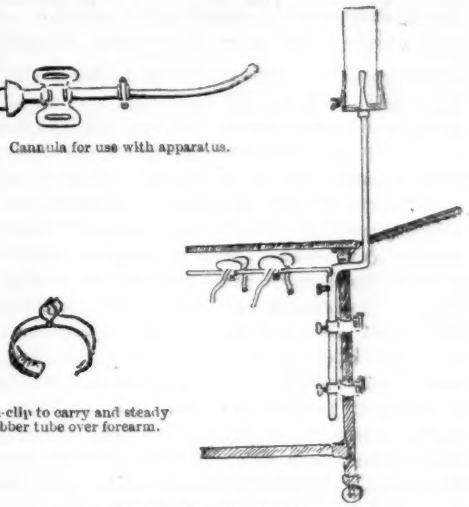
The apparatus which is described and illustrated in the article to which I have referred is capable of improvement. It is desirable that something attached to the operation table should serve the double purpose of holding the arm of the patient and of supporting the vessel containing the hedonal solution; for in hospital work it is a convenience and a saving of time to have the administration begun in an adjoining room, so that the patient only enters the theatre when asleep. If a table is used to hold the arm, and a separate stand is needed for the hedonal solution, movement of all these several articles is at least troublesome.

I have had made for me the apparatus which is here illustrated from a drawing by Mr. L. R. Braithwaite. It consists of an arm-support fashioned upon the lines of a Thomas's hip splint, and a vertical stand with a platform upon which the hedonal flask is supported (not suspended—the difference is important). The arm-piece occupies very little room, does not embarrass the assistant, and can be moved over a wide arc; the standard can be raised or lowered.

There have been witnessed on three occasions the struggles of patients and the displacement of the cannula from the vein. The arm-support shown in the figure has straps and buckles attached to it so that the forearm and wrist may be fixed quite securely. An additional security is afforded by the use of the cannula which Mr. Braithwaite and I have designed. Two little eye-holes are made about 1¼ inches from the nozzle of the cannula; through these are passed the ends of the catgut ligature which surrounds the vein above; these ends are then tied and the cannula cannot be displaced. A second flange is added which carries tapes encircling the arm. The end of the cannula over which the rubber tube is passed is made wedge-shaped, so as more easily to take the tube, and to avoid collection of air bubbles where the rubber tube joins the cannula.



Cannula for use with apparatus.



Arm-clip to carry and steady rubber tube over forearm.

Apparatus for administration of hedonal.

It is, I think, already quite certain that the use of hedonal is of the greatest value in many cases. The relaxation of abdominal muscles, by its use, is of a kind that we have never seen in other forms of anæsthesia. The muscles are as loose as the lapels of one's coat. The patients themselves like the method, and already a lay demand for it has sprung up in many places near us. I have several times been asked by patients to allow them to have hedonal rather than ether. But there have been conspicuous disadvantages also in three or four cases. In two cases a severe chest complication of the nature of an acute œdema has been seen. Struggling in the case of one magnificent specimen of the "hefty" miner has been extreme, and the language was then of the varied and decorative character which is the rare and highly envied gift of some among this class. The method has seemed to me to be perfect in cases of malignant disease in the abdomen needing resection of the stomach or of the intestine. The fluid administered to these often emaciated and desiccated patients seems to be most beneficial. For the acute abdominal case also hardly anything could be better.

The cannula and the arm-clip were made for me by Mr. C. F. Thackray of Leeds.

B. G. A. MOYNIHAN, M.S. Lond., F.R.C.S. Eng.
Leeds.

[1] THE LANCET, May 11th, 1912, p. 1258.

A MEDICAL MAN'S COURAGEOUS ACTION.—On June 3rd the Dublin city coroner, Mr. L. A. Byrne, held an inquest on the body of a boy, aged 5 years, who was drowned in the Liffey on June 1st. In the course of the evidence it was shown that Dr. A. L. Hoops, who was passing the quay on a bicycle when the boy was in the water, immediately jumped into the river, which was at full tide with a strong current flowing, and after rescuing the child applied artificial respiration. The coroner warmly praised Dr. Hoops for his prompt attempt at rescue, and the jury recommended him to the notice of the Royal Humane Society.

THE LANCET.

LONDON: SATURDAY, JUNE 15, 1912.

The National Insurance Act: The Position of the Hospital Staffs.

As time goes on, and the date for the passing into force of the National Insurance Act comes right upon us, all the numerous difficulties under the working of the Act appear to grow more acute. Discussions, conferences, and concessions have but partially served to reassure a profession which, while resolute to resist exploitation, puts forward in the main only reasonable claims for fair treatment. Among the most important questions arising at the present moment out of the Act is what should be the attitude of the staffs of the hospitals towards insured persons, and towards those medical men who are prepared to contract for their treatment upon terms that appear unprofessional—towards, in short, the supplementary pledge which the British Medical Association is inviting all its members to sign. The consultants, the medical staffs, and the teachers connected with our large hospitals are here faced with a singularly difficult problem. Their decision will have far-reaching results, and it cannot long be delayed; but the action that they should take is not dictated with that clearness that would inevitably lead to a unanimous decision. Almost as soon as this number of THE LANCET is in the hands of many of our readers a meeting of the medical staffs of the London hospitals will be in progress at the house of the Royal Society of Medicine for the discussion of this problem, and the issue of the conference is being anxiously awaited by the general practitioners of the metropolis, and indeed by the medical profession at large. Supposing the members of hospital staffs in any number should feel it to be their duty to stand aside from the proposed undertaking, the moral effect of this course of action upon the mass of the profession must be considerable, while this effect will be even greater upon the public, upon the medical students, and upon newly qualified men who, having as yet no personal experiences of the medical career upon which to draw, look to their recent masters for guidance and inspiration at a critical juncture.

That part of the supplementary pledge of the British Medical Association which concerns hospital practice, other than the administration of sanatorium benefit, runs as follows:—

> After that portion of the National Insurance Act, referring to medical benefit, comes into operation, and until the terms and conditions of administering medical benefit under the National Insurance Act have been approved by the profession, (1) I will not, except in cases of urgent necessity, render professional service to an insured person through the service of any voluntary medical charity, (2) I will not coöperate with any member of the profession who is under contract to render service to insured persons upon terms which are not approved by the profession.

Now it is quite clear that this is an extremely difficult undertaking for the staffs of hospitals to give, and many among this class, whose actions as well as whose words have shown them as among the most resolute to assert and maintain the proper professional position in the arduous struggle in which we are engaged, may well hesitate before signing it. It cannot be signed lightly, even in the interests of that professional unity which we all desire; it must be considered well in all its bearings. The terms of the pledge have been drafted with a two-fold object in view—namely, the security of the medical profession and the ultimate good of the community, which two things are seen by all thinking men, whether medical or lay, to be interdependent. The staffs of the hospitals are in complete sympathy with this two-fold object, and know full well that it is their duty to bear their share in the coming struggle. But if they commit themselves offhand, however well intended their impulse, to a line of action which deeply involves a number of important interests, they will perhaps jeopardise the medical profession in the eyes of the public to a perilous extent. The visiting staffs of our hospitals are well aware that in their hospital practice they have duties towards their profession, duties towards the sick poor under their care, and duties towards the institutions which they serve. If in any circumstances one set of duties should seem to conflict with another or with both of the others, it may be a difficult thing to say at once which claim should come first and which may be set aside temporarily for the greater ultimate good. This is the point upon which the staffs of the London hospitals have to come to a conclusion, and happily such situations, however clouded, nay stormy, they may appear, have a tendency to become clear after discussion—seeming contradictions can often be reconciled by thought, inquiry, and debate.

We trust that the staffs of the hospitals will arrive at a unanimous decision, and, therefore, that the question of the actual signing of the pledge will not be made the subject of a motion or a vote, for such a course of procedure might invite an immediate and deep division of opinion among a body of men whose general object is the same, and in whom the desire to serve the public through medicine, and to assist the progress of medicine in the interests of that public, is common and equally ardent. We have our critics, not all of them fair ones, and some of them but partially instructed, and any violent discord among our leaders at the present moment might do us as a body grave damage. We hope that the conference will result in the recommendation of a unanimous course of action which will protect the medical profession from exploitation. The particular phase of the struggle now under consideration will take place in the out-patient departments of the hospitals. It can be put quite shortly thus. If medical men, not receiving their just demands, refuse to administer medical benefits to insured persons, and if the insured persons then obtain those benefits gratuitously from the hospitals, the action of the medical men is nullified. They rightly ask for, and must assuredly have, the protection and coöperation of the staffs of the hospitals. The staffs of the hospitals, in any action to this end, should be sure of

the support of their managements; for if the charities should be exploited by Insurance Committees or Approved Societies, or by insured persons on their own account, the work would soon be crippled by mere weight of numbers and could no longer go on in response to voluntary efforts. The State would be forced to step in, and such a break-up of the voluntary hospital system, which has reached a high degree of perfection in this country, would be deplored equally by the governors of the institutions, by their medical colleagues, and by the leaders of charitable work in the country. The hospital authorities and the hospital staffs have a common interest at stake, and their interest is the same as that of the medical profession at large. A general hospital policy, in sympathy and in harmony with the work of the British Medical Association, might well be arrived at, which would immensely strengthen the position of the general practitioner in his struggle for freedom. If the hospital staffs are not at the moment prepared collectively to sign the undertaking demanded of them by the British Medical Association, they can none the less show plainly that they are not standing aloof, but are alive to the urgency of the situation and to the need for their help. This, we suggest, they might do partly by forming themselves into an organisation to watch the future course of relations between the hospitals and the Act, and as an immediate step they might formulate some such resolution as the following:—

That since under the Insurance Act insured persons will be specially provided with money to pay for medical attendance they cannot be included in the class of the necessitous poor for whose benefit hospitals are maintained, and except in exceptional cases should not be considered as fit subjects for the treatment of such ailments as form the bulk of out-patient practice.

The unanimous passing of some such resolution as the above would show the public that the profession of medicine is at one, from top to bottom, in the demand for fair treatment. An acrimonious debate on the signing of a particular document might obscure in many eyes the existence of this common feeling.

The Preliminary Education of the Medical Student.

THE session of the General Medical Council, which came to a conclusion on Saturday last, although a brief one, was characterised by one important event—namely, the receipt of a valuable report from the Education Committee upon the difficult subject of the preliminary education of the medical student. The report, which will be found in another column of this issue of THE LANCET, made brief but detailed suggestions as to the sort of standard in general subjects which candidates for medical and dental qualifications might in these days be expected to reach, and the report was submitted to the Council, not for adoption in detail, but in order that proposals to improve the existing standard, intended to come into force after the close of 1913, should be published now for the instruction of all interested. The report is now in the hands of all the licensing bodies, who during the reasonable period thus indicated will be able to test its recommendations by their own experiences, and it is hoped that representations will be made to the General Medical Council by those bodies, so that when the time comes for the intended changes in preliminary education the Council will be in possession of information which will supplement in a practical manner the views of the various representatives.

For the General Medical Council, to use the words of Dr. J. Y. MACKAY, the chairman of the Education Committee, is pledged up to the hilt to raise the standard of the tests which guard admission to the medical curriculum; the universal elevation of educational efforts in other professional directions makes this advisable, while the development of our own science makes it necessary. The gist of the recommendations of the Education Committee for the improvement of the preliminary education of the medical student is that in the entrance examination a premium is to be put, and put in a marked way, upon thinking as against the rule of thumb acquisition of so many items of fact. Stress is to be laid upon the way in which candidates acquit themselves in the essay, the paraphrase, the translation from unprescribed text-books, and the solution of geometrical riders, these being the very things in a pass examination which call for some modicum of culture and some originality of mental process. While the Education Committee suggest that the general scope of the examination should remain as before, it is clear that they intend to make the passing of it a more genuine proof that the student has learned not only a little classics and mathematics, something of a foreign language, and something of his own language, but also that he has learned one supremely important thing—namely, how to go on learning. In the direction of education in English the Committee showed no desire to prescribe a difficult curriculum, and Dr. R. SAUNDBY, who pointed out pithily that examiners in professional subjects were supposed to examine in medicine and surgery, and not in English composition and spelling, thought that the report would not remedy the deplorable illiteracy that prevailed among medical students at the present day. But surely this is rather a reproach that should be levelled at the condition of secondary education in England generally, and to remedy the admitted defaults in secondary education is hardly the business of the General Medical Council. Moreover, as Sir T. CLIFFORD ALLBUTT pointed out in the course of the debate, many young men await intellectual awakening until they have reached the stage of technical education, with the result that certain defects in their form of literary accomplishment may remain without detracting from the value of their professional work. But undoubtedly the medical profession will gain by the establishment of a representative Council of the Board of Education, appointed to supervise all external examinations in the recognised secondary schools throughout England so as to get rid of that diversity of examinations for different professional pursuits which is the bane of our secondary education. Dr. NORMAN MOORE directed the attention of the Council to a report of a Committee of the Board of Education which had already suggested this procedure.

The report of the Education Committee of the General Medical Council was accordingly received by the Council. There is, perhaps, no reform which is more clearly seen by all those who are interested in medical education to be

required than a distinct raising of the standard of preliminary education amongst medical students. It is certain that a statutory course, which demands from the student on an average nearly two years' more study than the law prescribes, must have something wrong about it. It is usually said that either the statutory time is too short or the examinations are too numerous and fluky, for the quality of the teaching is not apparently at fault, while the students are, in the mass, exceedingly anxious to learn their work. But would the time be too short if the medical student, when he started on his definite professional career, was better equipped? And would examinations be so fluky if the candidates were put in a better general position for the acquisition of fresh knowledge than is provided by the existing standard of general education? It is the poor general education which makes the task of learning professional subjects so hard for a large number of medical students, and the General Medical Council by stiffening the curriculum at the onset will help to make it an easier course to run as a whole. It is significant that at the same session of the Council in which the determination was arrived at to make entrance into the medical profession a definitely harder task the somewhat melancholy facts were brought out that the Council had the large pecuniary deficit of £1370 upon its year's working, and that the decreases in the number of medical students pointed in the near future to a loss of £1000 per annum. We would ask the medical profession to consider these things, for it is too frequently suggested that our ranks are permanently overcrowded, and that from this fact arise the evils of over-competition. Those responsible for the original framing of the National Insurance Act were certainly of this way of thinking; let us hope that they appreciate their error. The numbers in the medical profession are (if only slightly) decreasing; the difficulty and expense of becoming qualified are both increasing; there is no crowd of competitors for appointments so vast that employers can offer with impunity unfair terms.

The National Insurance Act and the Teaching of Midwifery.

AT the joint meeting of the Edinburgh and Glasgow Obstetrical Societies, and at the meeting of the Faculty of Medicin of the Queen's University, Belfast, which we reported fully last week, attention was drawn to certain difficulties which are likely to arise in the teaching of midwifery owing to the operation of the National Insurance Act. The General Medical Council at present requires every medical student to conduct at least 20 labours as part of the curriculum, and the opportunity for so doing is usually furnished by the maternity cases among the poorer women living in the vicinity of teaching hospitals. The Model Rules which have been issued by the Joint Committee lay down that a woman must be attended in her confinement either by a duly qualified medical practitioner or by a certified midwife. This rule is printed in a type which shows that in the opinion of the committee it expresses, or is necessarily consequential upon, the requirements of the Act. Some of the speakers assumed that breach of the rule would lead to forfeiture of the benefit, but we do not find justification for this view either in the Act or in the Model Rules. Still, even if a lesser penalty is inflicted, it is clear that there is likely to be a considerable falling off in the number of cases available for students. It is possible that arrangements can be made by which a student can conduct his cases under the direct supervision of a hospital accoucheur who would be the attendant for the purposes of the Act, but this would at best be only a partial solution. The real difficulty arises from the fact that women prefer to be treated by a practitioner in their confinement, and with 30*s.* in hand would sooner go to a medical man than to the maternity hospital or dispensary. There is no getting away from the fact that it is only because of their poverty that women allow themselves to become clinical material, and if by reason of the Insurance Act they are in this respect raised above the poverty line they cannot be expected to forego the privileges of wealth. Nor, looking at the matter from the business point of view, do we see why the competition of students should deprive the general practitioner of his fees from a class of persons who now become paying patients. The question is one which demands the most careful attention from the General Medical Council. It is not established that the present is the only or the best method of training students, and we notice that Dr. NORMAN WALKER expressed considerable dissatisfaction with it. He has supported the intern method, and it may be that substantial alterations on these or other lines will have to be made.

Another point which came under consideration was the possible effect of the Act in discouraging women from entering maternity hospitals. Section 12 prohibits the paying of sickness, disablement, or maternity benefit to, or in respect of, any person during any period when the person, to or in respect of whom the benefit is payable, is an inmate of a hospital or institution supported by any public authority or out of any public funds, or by a charity or voluntary subscriptions. It was pointed out that if entering a hospital means forfeiture of benefits, women will naturally prefer to remain outside and to be attended by private practitioners or midwives. Thus not only would teaching suffer, but women in whom labour might be abnormal would lose the advantage of special institutional treatment. The Act provides that during such period the sum which would otherwise have been payable shall be paid "in whole or in part for the relief or maintenance of his dependents." Where the woman is herself an insured person difficulty is not likely to arise, for with the wide definition of dependents given in the Act she will seldom not be able to show that she has someone dependent upon her. But where, as will probably most often be the case, she is not herself an insured person, but is the wife of an insured man, the position is not so clear. It was suggested that in this case also the benefit could be paid to her dependents, but we doubt whether the Act can be interpreted in such a way as to allow this. It must further be pointed out that the moral claim for payment is open to question in those cases where the woman is not the bread-winner, and is receiving gratuitously the advantages of attendance and treatment which the benefit is intended to provide. The Act places an obligation upon the

husband to make proper provision for his wife during her confinement and for a period of four weeks after. The maternity benefit enables him to discharge this liability. If he is relieved of his obligation why should he be paid the money? To this it may be replied that women as a rule only stay in such institutions for a period of ten days or so, while the husband's obligation extends over a month. If the Act permits it, a reasonable solution would appear to be to allow a part of the benefit proportional to the time the patient is in the institution to be paid to the institution, and the rest to be spent upon other expenses of the confinement.

The scheme for maternity benefit is a part of the Act which has received the entire approval of the medical profession. It in no way interferes with private practice. On the contrary, it places the recipient of the benefit in a better position to pay medical accounts; while the value to the community in reducing infant mortality should be considerable. At the same time, the adequate training of students in midwifery is of the highest importance. The difficulties which may arise do not seem insurmountable, and it will be a matter for serious regret if they cannot be satisfactorily adjusted.

Annotations.

"Ne quid nimis."

THE PROMOTION OF HOUSING REFORM.

A PRIVATE Member's Bill for the better application and enforcement of the Housing of the Working Classes Acts and the Amendment of the Small Dwellings Acquisition Act, 1899, recently found itself before the Standing Committee presided over by Mr. Eugene Wason, when it was deprived of those features upon which its promoters relied to effect a marked change, and, in their opinion, a marked improvement, in the law. We cannot help thinking that the Government, whose sympathies with the wants of the working classes have been so often and so practically shown, have here acted without a full consideration of existing ills. Put briefly, the main objects of the Bill as introduced were to create Housing Commissioners to be placed at the head of a separate department of the Local Government Board, and to obtain from Parliament an initial grant of half a million in aid of operations. It was proposed that the Commissioners should supervise, coördinate, and assist in the promotion of housing schemes, and it was hoped that "speeding up" of the efforts of local authorities would be the result. It was also thought, as financial difficulties rather than unwillingness to move seemed to cause the inaction of local authorities in many places where housing reform was needed, that the aid of State funds would enable these bodies to promote effective schemes which neither they nor the landlords could be expected now to undertake unaided in face of unremunerative expenditure. Mr. Burns's attitude was consistent throughout, and as the member of the Government who has given the closest consideration to this and similar problems, and whose practical knowledge of them is unequalled among public men, his views have great weight. He considered that a State subsidy would weaken local enterprise, and also that the amount asked for was too small to effect substantial good. He further regarded the proposed commissioners as foreign to the principle of local government, and as calculated to discourage and hinder, rather than to stimulate, energy in the direction of housing reform. The clause providing for the appointment of Housing Commissioners was therefore defeated, with necessary consequences to other clauses dependent upon it, and the Bill, if it becomes an Act, will be one which in no way fulfils the original aspirations of Sir Arthur Boscawen, who introduced it, and of those supporting him. We trust that the Government may see its way to provide some other solution, which seems to it more practical, of the difficulties which have delayed so far an extended use of the existing Housing Acts. There is certainly force in the arguments which have been brought forward as to the possibly ill effect of State grants, but those in favour of State assistance to local effort believe that such assistance would stimulate rather than retard the finding of funds locally. The amount asked for was criticised as inadequate, but the sum hit upon was, no doubt, limited to that which might be made use of tentatively, the increase of it, or the withholding of similar grants in future, depending upon the success of the experiment. As to the principle of non-interference with those engaged in the functions of local government, agreement with the President of the Local Government Board will vary in the minds of those interested in housing reform according to their individual experience and opinions. The work at present achieved locally in this connexion has undergone many changes in the last 50 years. Revolution in the mode and cost of locomotion has left, in London for example, slum dwellings, with rooms still overcrowded, and others close by with rooms unlet which once held an undesirable number of families or individuals. Whole districts outside the area of the County of London, which 20 or 30 years ago were open fields, have been covered with mean streets and are beginning to demand attention as slum areas. "Garden Cities" have provided a popular name for a form of town planning which is being successfully conducted, but experimentally and on a comparatively small scale. The provision of "Garden Cities," moreover, is not within the powers of local councils under Acts enabling them to rehouse the working-classes, because they are precluded from arranging and developing newly acquired sites so as to secure themselves against financial loss, and can only build for the accommodation of the dispossessed families of working men. The Housing and Town Planning Act, 1909, was a great step in advance, but recently the proceedings of the National Town Planning Conference for the southern area afforded evidence of the feeling on the part of some local authorities, and of some energetic and hard-working individuals belonging to those bodies, that it ought to produce larger and swifter results. The energies of local bodies, both urban and rural, and their power to deal with the financial problems before them vary considerably, and although it sounds admirable as a general principle to leave them the fullest possible measure of initiative and responsibility, we can well understand the disappointment of the promoters of Sir Arthur Boscawen's Bill at not being permitted to provide something in the nature of stimulation and assistance.

DEEP DIVING IN THE ITALIAN NAVY.

IT will be remembered that the Admiralty, advised by the diving committee, adopted new rules, some four years ago, for deep-divers, in the hope that their employment might be made less dangerous and more efficient. The four chief rules were: 1. The diver to go down very quickly. 2. Supply of air to be increased with the depth; the diver to have the same volume of air supplied to him every minute whatever the pressure. 3. Time allowed for working below to be reduced as the depth increases. 4. Stage of decompression—pressure suddenly reduced, by ascent, to one half; a rest

there till the excess nitrogen has been eliminated; and then another reduction to a new half-pressure, and so on. This method, after 15 months' investigation and 1071 descents, has been adopted by the Italian Navy, as we learn from the March number of the *Annali di Medicina Navale*, in which Surgeon-Colonel Abbamondi argues that the old method, with its steady descent and slow, continuous ascent, was better; but he seems quite to have overlooked the greater depths to which the "new or English method" has given access, and the better work on the bottom which can be achieved now we have learned that it is air that the diver needs and have taken care to supply it to him.

THE WORKS OF DR. CAIUS.

THE modest inscription on the tomb of John Caius runs thus: *Fui Caius; Vivit Post Funera Virtus;* and it is only too sadly true, for but scant recognition of the Virtus of a noble-minded man was accorded until after his death. But the book now before us[1] is a tribute worthy of one who was in his lifetime a type of what a doctor of a University and a physician should be, and who remains after his death "an ensample of godly life" for all men, and especially for the medical graduates of either University, or, indeed, other places where, to use the words of the Oxford bidding prayer, "there may never be wanting a succession of persons duly qualified for the service of God in Church and State." And thus qualified was certainly John Caius. A scholar, a good physician, an adviser of kings, he gave of his wealth during his lifetime to restore the waste places of the home of his early education, in his own words, "that pore howse now called Gonville Halle." For details as to his benefactions the reader must consult Dr. Venn's interesting and fully written memoir. The works of Caius reprinted are as follows: De Medendi Methodo, in two books; De Ephemera Britannica, an English treatise on the Sweating Sickness, which is not a translation of the De Ephemera, but is, as Caius says, for popular use. Two books, De Antiquitate Cantabrigiensis Academiae; two books, Historiae Cantabrigiensis Academiae; one book, De Canibus Britannicis; one book, De Rariorum Animalium atque Stirpium Historia; one book, De Libris Suis; De Pronunciatione Graecae and Latinae linguae cum scriptione nova libellus; the first book of the Annals of the Royal College of Physicians, London, 1518–1572; and finally a translation of the treatise De Canibus, by Abraham Fleming, 1576. Of these the most valuable from a medical point of view is the treatise on the sweating sickness, for it is the classical account of that disease. The De Antiquitate Cantabrigiensis Academiae, in which John Caius sustained the superior antiquity of the University of Cambridge as against that of Oxford, supported by his namesake Thomas Caius, or Key, or Cay, is an amusing if valueless compilation. In it Caius cites a variety of authorities to show that the University of Cambridge was founded at some uncertain date between B.C. 394 by Cantaber, and A.D. 531 by Arthur, whereas Oxford can only claim to have been founded by Alfred A.D. 873. Caius's lifelong friend, Richard Willison, of Sugwas, Herefordshire, however, seems to have formed a just appreciation of the work in that he says, "I mervailed much in the reading, how you were hable to gather suche a fardell of straunge Antiquities together, being otherwise occupied in weightie affaires. But you were ever Helluo Literarum. ....." Willison must have been a cheery soul, for in another part of his letter he says, "I trust by God's grace to meet you and Mr. Barker, in our olde and your newe Colledge where we minde to spende a whole g. (? gallon) of beare; and pricke it uppon one Docter Caius heade. ....." It is a pleasant picture. The letter is dated March, 1571, when Caius as Master was at loggerheads with his Puritanical Fellows, and we may hope that the rigorous, ascetic, and possibly disillusioned Master had no qualms in paying for the "beare" and in drinking the same with his old friends Willison and Barker. Perhaps the meeting would help him to forget for a while the disgraceful raid upon his rooms by the Fellows who were living on his bounty and the destruction of his chapel ornaments, with the connivance of the Vice-Chancellor, which occurred in December, 1570. In 1572 Caius found he could no longer bear his position as Master and retired to his house in St. Bartholomew the Less, London, though he did not actually resign the mastership until June 27th, 1573. On July 29th of the same year he died at the age of 62. His body was embalmed and taken from St. Bartholomew's, where he died, to Cambridge, where the authorities of the University and the Fellows of the College who had treated him so shamefully came out in state to meet it. Dr. Venn prints the account of charges for his sickness and funeral, and there are various items of interest. After his death we find "Bread drinck and butter for the doctors of Phisick and their men IIIIs IIIId"; "To the Surgeon for dissectinge and the Corps and trymmynge of the bodye XIIIs IIIId." The inventory of his goods both in London and Cambridge shows how much of his estate he had disposed of before death. By far the most valuable items were articles of plate, of which there were 11 lots. Everything except one "white Pott with a cover" was gilt or parcel gilt, and the valuation varies from 5*s.* 2*d.* to 4*s.* 10*d.* per ounce. The total value was £32 6*s.* 5*d.* Of his apparel, a black gown and a hood lined with satin are valued at 33*s.* 4*d.*, and the habit and hood of a doctor in Physic at the same sum. Of ready money there was a sum of £428 odd, most of which was to go for the purchase of lands for the College. Considerations of space forbid us from dealing further with this admirable compilation, which reflects credit upon all concerned in its production. Fuller, speaking of the "Fui Caius" on the tomb, well, if obscurely, says, "Few might have had a longer, none ever had a shorter, epitaph"; the longer epitaph has now been written.

[1] The Works of John Caius, M.D., Second Founder of Gonville and Caius College and Master of the College, 1559–1573. With a Memoir of his Life by John Venn, Sc.D., Senior Fellow and President of the College. Edited at the request of the Governing Body of the College and of the President and Fellows of the Royal College of Physicians by E. S. Roberts, Master, in Commemoration of the Four-Hundredth Anniversary of the Birth of John Caius in 1910. Cambridge: At the University Press. 1912. Pp. 303. Price 12*s.* net.

ANTI-MALARIAL MEASURES IN INDIA.

IN THE LANCET of Jan. 13th we drew attention to evidences of a marked change which was taking place in the official attitude in India towards anti-malarial measures, and commented upon some passages in the important address which was delivered by Sir C. P. Lukis, the Director-General of the Indian Medical Service, at the opening of the Imperial Malaria Conference last November at Bombay. The detailed report of the proceedings of that Conference has now been published in the last issued number of *Paludism* (Vol. I., No. 4), the organ of the Committee for the Study of Malaria in India, and from this we learn that before dispersing a series of resolutions were passed unanimously by the delegates. These resolutions reflected to some extent the changed official attitude in the matter of anti-malarial measures, and they were to the following effect. Researches which have been carried out in the field by highly competent experts have shown the value of preliminary investigations in affected localities, and seem also to indicate the possibility that anti-mosquito measures may not after all prove so costly as was at one time feared. Experience has proved that no single measure is applicable to all the conditions which favour the prevalence of malaria in

India; a combination of several measures might be required to suit the local circumstances of certain places. Quinine prophylaxis applied to a free population, it must be admitted, is difficult to carry out in the thorough way which is essential to success. Treatment by quinine of persons suffering from malaria is a measure of the greatest value from the point of view of saving life, preventing suffering, and destroying a potent source of infection. Education of the people is a most important anti-malarial measure, and every effort should be made to secure the coöperation of the public, for without this there will be little hope of the campaign proving successful. Instruction in schools as well as lectures and lantern demonstrations in villages are among the best methods for spreading the needed knowledge; the information conveyed in this way is more likely to reach the people than if presented by pamphlets or posters. The attention of the Indian Government was drawn by the delegates to the possible danger arising from borrow pits dug near dwellings, more especially when these excavations permit the presence of standing water in them. While still strongly in favour of the prosecution of further scientific researches the conference expressed the opinion that sufficient was already known of the breeding habits of mosquitoes to make it frequently possible for trained workers to control malaria in an efficient manner. Finally, the delegates, in view of the possible importation into India of yellow fever in the near future from Central and South America, urged the advisability of having a "stegomyia survey" carried out; and held that steps should be taken to educate the people of India in the best way of exterminating domestic mosquitoes and destroying their breeding places. These unanimous conclusions of the delegates at the conference show the advance which has taken place in the official views in India as to the best means of fighting malaria; before long we may expect a large reduction in the amount of suffering and death caused by malaria.

TYPHUS FEVER AND BRILL'S DISEASE.

MUCH interest has been excited in the United States by the papers published by Dr. Nathan E. Brill, of New York, describing "an acute infectious disease of unknown origin," numerous examples of which occurred in his own practice, and which he was able to separate from typhoid fever because of the brief duration of the pyrexia, the absence of the specific agglutination reaction, and the presence of a distinctive eruption. In 1909 Dr. Brill published an account of 221 such cases, and the disorder became known as "Brill's disease." Since then it has been a battle-ground of controversy between those who asserted that the symptoms were those of typhus fever, and those who believed it to be a separate and distinct entity. Further cases have been reported by Dr. Brill himself and by others, though so far as we know no instance of it has been observed outside New York and Brooklyn. One point that made it difficult to believe this disease identical with typhus fever was its very low mortality, about 1 per cent. of the cases recorded proving fatal. However, the problem was clearly one for bacteriological or bio-chemical tests, and as there is as yet no certain knowledge of the bacteriology of typhus fever it was necessary to rely on immunity reactions. Experiments made by Dr. Brill last year were negative so far as they went, but Dr. Brill himself considered these results inconclusive. A paper recently read before the Section in Medicine of the New York Academy of Medicine, and published in the *New York Medical Journal*, May 11th, 1912, fills the gap. Dr. John F. Anderson and Dr. Joseph Goldberger, who have been investigating typhus fever in Mexico City, found that the lower apes displayed a characteristic form of febrile reaction after intraperitoneal inoculation with blood from human cases of typhus fever. This consists of a rise of temperature starting after an incubation period of about a week, reaching its maximum in about three days, and falling again to normal in about five days. Their first step was to apply this test by inoculating a series of monkeys with blood from patients suffering from Brill's disease; in two of these the characteristic reaction occurred, and it was also possible to inoculate further animals to the fifteenth generation from those which received the dose of human blood. The next and most important step was to find out whether recovery from typhus fever conferred immunity to Brill's disease, and *vice versâ*. The monkeys which had recovered from typhus fever were inoculated with blood from monkeys suffering from Brill's disease; the results were uniformly negative, though of eight control monkeys which had not had typhus fever seven reacted characteristically. This may be interpreted that a previous attack of typhus fever confers immunity against Brill's disease. Conversely, seven monkeys which had recovered from febrile attacks following inoculation of blood from cases of Brill's disease were found to be absolutely resistant to inoculation from typhus fever patients, though the typical reaction followed in every one of nine healthy monkeys used as controls. The obvious inference is that Brill's disease and typhus fever are identical, since an inoculation with either confers immunity against the other. If this be so, we are faced by the disquieting fact that a mild form of typhus fever has been endemic for some years in New York; and what is true of one large city is likely to prove equally true for others. Fortunately, recent work has shown that the common louse is the carrier of the infective agent of typhus fever, and this gives reason for the hope that it may be possible to prevent transmission of the disease by destruction of its intermediary. It is interesting to note that Dr. Anderson and Dr. Goldberger find reason to believe that this insect may also act as a carrier of "Brill's disease" or (as we must henceforth think of it) of endemic typhus fever.

"SHUTTLE-KISSING."

AN interesting report to the Home Office and to the Local Government Board, upon an inquiry into the alleged danger of the transmission of certain diseases from person to person in weaving sheds by means of "shuttle-kissing," has been issued as a Parliamentary paper. The matter affects workers in the cotton and linen industries, and evidence was taken in a number of towns in Lancashire, and in Glasgow, Belfast, and the north of Ireland. No evidence was found to support the allegations that in certain particular instances transmission of disease took place by "shuttle-kissing." The committee engaged in this inquiry report: "Indeed, we might safely go a step further and say that we have not found evidence in any instance which would justify suspicion that the shuttles had been the means of transmitting infection." They add that they are in hearty concurrence with the view that the practice is objectionable, and that it is desirable that some other method of shuttle-threading should be adopted, but this opinion they hold, apart from the medical or public health aspect of the question, on the ground simply of decency and cleanliness of habit. As far as cotton is concerned, the committee hold that practical alternatives to the present form of shuttle should be found and that "shuttle-kissing" is no longer a necessity. As regards flax, they were forced to the conclusion that the hand-threading shuttles, in their present form, may not be suitable for flax, and there was considerable doubt whether the mechanical suckers would pull the stiff fibre through the eye, but they found, on the other hand, when they visited Belfast, that in some

sheds slight alterations were being made in the design of the shuttles to enable the weaver to push the thread through the eye with finger and thumb. The committee think that threading with the mouth (the weaver in the act puts the side of the shuttle to his mouth and uses an inspiratory suction to draw the thread through the eye, hence the term "kissing the shuttle") might be generally avoided by adopting such measures, or by the use of hooks of various forms, similar to a crochet-hook, which can be inserted through the eye, and will draw back the weft. While in agreement that the present method of threading is uncleanly and may even be a possible means of spreading infection, the committee do not think the time is yet ripe for insisting, either by regulations or by Act of Parliament, in the abolition of the existing form of shuttle. They feel that the facts elicited do not justify drastic legal action at present. The report is signed by Mr. Gerald Bellhouse (one of the superintending inspectors of factories), Dr. W. W. Fletcher (medical inspector of the Local Government Board), and by Mr. D. J. Shackleton (late senior labour adviser, Home Office). Dr. H. T. Bulstrode, one of the original members of this departmental committee, died before the inquiry terminated.

THE SCIENTIFIC RESEARCHES FOR THE LOCAL GOVERNMENT BOARD.

THE President of the Local Government Board has authorised the following special researches to be paid for out of the annual grant voted by Parliament in aid of scientific investigations concerning the causes and processes of disease:—

1. Further investigations (*a*) as to the distribution of tubercle bacilli in children having died between the ages of two and ten years, and the special characteristics of such bacilli; and (*b*) in collaboration with the General Register Office, on the incidence of different forms of tuberculosis in different parts of the country, according to age, sex, occupation, and other conditions.
2. A continuation of a research into the causes of premature arterial degeneration in man, by Dr. F. W. Andrewes, of St. Bartholomew's Hospital.
3. A joint investigation into the virus of poliomyelitis, by Drs. F. W. Andrewes and M. H. Gordon, of St. Bartholomew's Hospital.
4. A continuation of an investigation into the micro-organisms known as non-lactose fermenters occurring in the alimentary canal of infants, by Dr. C. J. Lewis, of Birmingham University, Dr. D. M. Alexander, of Liverpool University, and Dr. Graham-Smith, of Cambridge University.
5. A continuation of the investigations by Professor Nuttall, of Cambridge University, on fleas and on the range of flight of the domestic and allied flies.

A NEW TREATMENT FOR PELLAGRA.

Dr. Jean Nicolaidi, of Paris, has devised an original method of treatment of pellagra, and a paper on the subject, which he read at the recent International Congress of Dermatology at Rome, is interesting. Dr. Nicolaidi holds that the main changes in pellagra are due to serious interference with nutrition. In order to overcome this nutritional disturbance it occurred to him that a serum might be employed in treatment, and he prepared a serum, which he calls an "organo-polymineralised serum"; its composition is not stated very definitely, but it is said to contain substances extracted *in vacuo* from horse serum, and organic and mineral substances from blood plasma, and it is also made radio-active. The first attempts to treat pellagra with this serum were made in Roumania in 1909, and the results are said to have been so good that he was asked by the Roumanian Government to employ the serum in the following year, and we are told that many patients suffering from the disease were rapidly cured or at least much benefited, and in some cases patients with severe mental symptoms who were in the asylum at Craiova were able to leave the asylum after 20 to 30 injections. During the summer of 1911 Professor Antonini was asked by the Health Department of Italy to arrange for a series of trials of the serum. These trials were made. Patients were taken who had severe symptoms and who had not shown any improvement under any other form of treatment. After about 25 injections all the symptoms had diminished in severity or disappeared, the general nutrition had much improved, and many patients were able to resume their occupations. The improvement in the skin lesions were as marked as the improvement in the symptoms; a change for the better was visible after five or six injections, and after 12 injections every trace of the scales and erythema had disappeared. As to the question of recurrence, only 2 cases out of 50 in Roumania showed signs of any return of the disease, and only 1 case of relapse occurred amongst those treated in Italy in 1911, and this in spite of the fact that the patients had not changed their diet. The results seem to be very encouraging, but it is probable that some of the constituents of this very complex serum take no share in the result.

A TYPHOID CARRIER ON SHIPBOARD.

THE danger to others of a typhoid carrier on land are now well known. In the *Journal of the American Medical Association* of May 4th Dr. Wilbur A. Sawyer, director of the Bureau of the Hygienic Laboratory of the California board of health, has reported a case which shows the evil which may be wrought on shipboard, where there are peculiar opportunities for conveying the infection. For three and a half years it had been noticed at the United States Marine Hospital in San Francisco that a large part of all the typhoid cases came from the steamship *Acme*, a vessel carrying lumber from Humboldt Bay to San Francisco Bay and sometimes to San Pedro, the port of Los Angeles. An investigation by the Health Department of San Francisco pointed to the winch driver, who had had typhoid fever four years ago, as a carrier. But his blood failed to give the Widal reaction and typhoid bacilli could not be found in his stools. It was considered that the solution of the problem involved work in other cities. The State board of health was notified of this fact and assigned the investigation to the division of epidemiology of the Bureau of the Hygienic Laboratory. Dr. Sawyer, the director, began work on the problem on Dec. 28th, 1911. The *Acme* carried no passengers and the crew usually numbered only 21, including the officers. The ship was not less sanitary than most vessels of her kind. The mess-room of the officers was clean and attractive. The crew ate their food sitting on the cargo. The galley was not so clean as was desirable. The forecastle housed 12 men in very close quarters. There were three tiers of bunks and very little unoccupied space. The sailors' water-closet was in a filthy state, and suggested opportunity for the spread of infection by flies. The food-supply could be excluded as a source of infection. Condensed milk was used, and other ships buying food in the same market were free from the disease. Only two men, the captain and the winch-driver, had been on board during the entire series of typhoid cases. Examination of the blood, fæces, and urine of the captain was negative. As stated above, the same result had previously been obtained in the case of the winch-driver. However, a search through the records of the United States marine hospitals in San Francisco and Los Angeles pointed to him as the source of infection. In January, 1908, a case of typhoid fever was received from another steamer on which he had previously been employed. Since he joined the *Acme* in August, 1908, during a period of 43 months 26 cases of typhoid fever had been received from it in the hospitals. It was decided to make a thorough examination of all persons under the slightest suspicion of being carriers. The captain, chief engineer, and the winch-driver were taken into hospital for 24 hours, so as to ensure that all specimens were *bonâ fide* and properly taken. They

were given fluid extract of cascara on admission, and Epsom salts next morning. The blood, urine, and fæces were examined. In the case of the winch-driver a positive Widal reaction was now obtained, and the typhoid bacillus was cultivated from his fæces.

THE POLLUTION OF SWIMMING BATHS.

THE public health committee of the metropolitan borough of Poplar has included in a report recently presented to its council a statement in regard to the use of electrolytic disinfectant for cleaning and purifying the water of public swimming baths. The method is regarded as giving very satisfactory results, and reference is made to a paper on the subject by Dr. J. Graham Forbes, issued by the Medical Officers of Schools Association, in which the writer expresses surprise, in view of public swimming baths being a possible means of conveying infection, whether epidemic or not, that comparatively little attention has been drawn to the evils and dangers lurking in these establishments. It is claimed, firstly, that by the addition of a small quantity of electrolytic fluid (the active agent of which is magnesium hypochlorite) the water is purified both chemically and bacteriologically by the oxidising and germicidal properties of the fluid. Secondly, the water from its purification is pleasanter to bathe in, clear, and free from the frequent unpleasant odour. The cleansing of the bottom and sides is easily accomplished owing to the absence of slime commonly found at the deep end of the bath. Finally, it is stated that the cost of purification and cleansing by means of electrolytic fluid is considerably less than the costly processes of emptying, cleansing, and refilling with clean water at frequent intervals, although the primary object was to provide a clean bath for the bathers rather than to effect economy in the use of water. Presumably it has been found that no objection by the bathers has been taken to the method of treatment and that no harmful effects to the body have been observed.

MERJODIN IN THE TREATMENT OF SYPHILIS.

WE have received a reprint of an article published in the *Deutsche Medizinische Wochenschrift*, No. 18, 1912, by Dr. Adolf Erdös, of Nagyvárad, Hungary, in which his experience of the use of merjodin in the treatment of syphilis is described. Merjodin is the trade name for the di-iodo-paraphenolsulphate of mercury, and is supplied in the form of tablets by the firm of Trommsdorf, of Aix-la-Chapelle. Each tablet contains an amount of the drug corresponding to 0·0033 gramme of metallic mercury. It is perfectly neutral, and shows only very little toxic action when administered internally. It produces the same curative effects as mercury given by injection or by inunction without the unpleasant effects of these methods. Sometimes diarrhœa is produced, but not, as a rule, to any unpleasant degree, and the drug does not debilitate the patient. Dr. Erdös concludes that it is a reliable anti-syphilitic drug, and that it is of value both in the secondary and tertiary stages of the disease. In parasyphilitic conditions, in syphilis of the nervous system, and in cases where a vigorous mercurial treatment is necessary it may be advisable to supplement treatment with other substances. The average duration of treatment by means of this drug should be from four to six weeks, during which time the patient takes from 120 to 150 tablets. At first three a day are given, but in severe cases four or even five may be given daily as the initial dose. If the patient shows no unpleasant effects, such as diarrhœa, the dose may be increased in a few days to three tablets three times a day. Dr. Erdös treated some cases by mercurial inunction in order to compare the effects of merjodin with those of mercury rubbed into the skin, and he found that 100 tablets corresponded to about 20 inunctions. He does not state how often the treatment should be repeated or at what intervals.

THE RAG FLOCK ACT, 1911.

THE Local Government Board has forwarded to the administrative authorities concerned copies of an Order prescribing under Section 1 (1) of the Rag Flock Act, 1911, a standard of cleanliness in rag flock. The Order is operative on and after July 1st, 1912. By this Act flock is deemed to conform to the needful standard of cleanliness when the amount of soluble chlorine removed by thorough washing with distilled water at a temperature not exceeding 25° C. from not less than 40 grammes of a well-mixed sample of flock does not exceed 30 parts of chlorine in 100,000 parts of the flock. Subsection (1) of Section 1 of the Act enacts that "it shall not be lawful for any person to sell or have in his possession for sale flock manufactured from rags or to use for the purpose of making any article of upholstery, cushions, or bedding flock manufactured from rags, or to have in his possession flock manufactured from rags intended to be used for any such purpose, unless the flock conforms to such standard of cleanliness as may be prescribed by regulations to be made by the Local Government Board, and if any person sells or uses or has in his possession flock in contravention of the Act he shall be liable, on summary conviction, to a fine not exceeding, in the case of a first offence, ten pounds, or, in the case of a second or subsequent offence, fifty pounds." There can be little doubt, in view of our own disclosures upon the subject and of the representations made by various authorities as to the filthy condition of rags used for the purpose indicated without any attempt at cleansing, that the Rag Flock Act will be a salutary provision for the community.

ON Wednesday afternoon Dr. Wilmot Parker Herringham, physician to St. Bartholomew's Hospital, was elected Vice-Chancellor of the University of London for the forthcoming year.

Dr. Alexander Morison is giving a course of lectures on the Nature and Treatment of Sensory and Motor Disorders of the Heart, in the board-room of the Great Northern Central Hospital. The second lecture will be delivered to-day (Friday), the 14th, at 5 P.M., and the third at the same hour on Tuesday, June 18th. The course will be illustrated by lantern slides and microscopic sections.

MEDICINE AND THE LAW.

Poor-law Medical Officers and Their Substitutes.

POOR-LAW medical officers are not infrequently compelled to give evidence at sessions or assizes, and when they are absent in circumstances provided for by regulations the guardians have to pay for substitutes to perform their duties. The guardians at Swinford (or Swineford), county Mayo, object to paying such substitutes when at the same time they are paying the salary of their medical officer, and on a previous occasion have passed a resolution urging Mr. Dillon, M.P., to get a Bill passed through Parliament to oblige the Crown or the medical officer to pay the substitute. The guardians are therefore aware of their legal position, and have, further, received a letter, read at a recent board meeting, from the Local Government Board, the gist of which is as follows. The Local Government Board points out that the law compels a witness to attend to give evidence, and therefore temporarily incapacitates him from attending to his duties, such incapacity being an "other cause" under Article 22, Dispensary Rules, entitling him to have a substitute paid for to do his work as medical officer. The Local Government Board can in certain

circumstances make the medical officer recoup the guardians, and would probably do so, for example, when he gives evidence in a civil matter for a private party, with whom he would arrange for a suitable fee. The Local Government Board is aware that a medical witness in Crown cases is paid by the Government according to a scale approved by the Treasury, but is of the opinion that the scale has not been framed to cover the provision of a substitute at the medical officer's expense. The Local Government Board consequently has hitherto declined to authorise deductions in Crown cases, and intimated that it saw no reason to alter its practice with regard to the Swinford board of guardians and its medical officer. At the meeting at which the letter of which the above is a summary was read, a guardian, Mr. O'Hara, said that it was a "very extraordinary" letter, and a colleague asked, "What else would you expect from them?"—i.e., from the Local Government Board. Mr. O'Hara accordingly moved a resolution, and the following order was unanimously agreed to by the guardians present: "That in any case where leave of absence is granted to a medical officer for attendance at assizes or other courts, and the guardians have to pay his substitute, the leave so granted be deducted from the annual vacation of the medical officer." Mr. O'Hara said that the above order would meet the case, "as there was no obligation on them to give the doctors a month's holiday." It will be for the Local Government Board to say whether its regulations can be practically nullified by a board of guardians acting in the manner described, assuming that there is nothing in the contract between the board referred to and its medical officer which protects the latter with regard to the threatened curtailment of his holiday. The story as it stands does not redound to the credit of Swinford, and it is to be hoped that there may be guardians there who were not present when the order quoted was made, and who will be able to secure its rescission.

Miners' Nystagmus and Malingering.

At Huddersfield county court recently his honour Judge Longstaffe delivered a reserved decision in an application under the Workmen's Compensation Act to reduce or terminate the payments being made to a miner, Irvine Moorhouse, the application being made by the employers, the executors of Miss Emma Lister Kaye, owners of the Denby Grange Colliery. The miner had contracted miners' nystagmus, and there was evidence on his behalf, given by Mr. G. H. Pooley, that he was genuinely affected with it, as alleged by him. The applicants, on the other hand, called Mr. F. H. Knaggs and Dr. A. Bronner, who were of the opinion that the respondent could and did bring on the symptoms of nystagmus at will. Judge Longstaffe adopted the latter view, in that he held that the respondent could "produce within reasonable limits for such period as he desired all the symptoms of miners' nystagmus." His honour was, however, of the opinion that Moorhouse still suffered from the disease and did not terminate the award but reduced payment from 12*s.* 3*d.* per week to 1*d.* per week. He pointed out that Mr. Pooley, a witness for the respondent, had stated in evidence that a man could control and aggravate the symptoms of nystagmus, and expressed himself convinced that the respondent had found out how to do this. He strongly condemned the dishonesty of malingering and dwelt upon the necessity to put a stop to it. The above decision is apparently one of fact, and therefore not likely to be heard of again upon appeal.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 95 largest English towns, having an estimated population of 17,639,816 persons in the middle of this year, 8452 births and 4183 deaths were registered during the week ending June 8th. The annual rate of mortality in these towns, which had been 12·7, 13·0, and 12·6 per 1000 in the three preceding weeks, further fell to 12·4 per 1000 in the week under notice. During the first 10 weeks of the current quarter the mean annual death-rate in these 95 towns averaged 13·5 per 1000, and was 0·6 per 1000 in excess of the average rate recorded in London during the same period. The annual death-rates in the several towns last week ranged from 4·4 in Ilford, 5·4 in Edmonton, 5·6 in Willesden, 5·8 in Eastbourne, and 6·0 in Aberdare, to 18·5 in Dewsbury, 19·2 in Liverpool and in Blackpool, 19·3 in Salford, 19·8 in Stockport, and 23·0 in Rotherham.

The 4183 deaths from all causes in the 95 towns were 87 fewer than the number in the previous week, and included 418 which were referred to the principal epidemic diseases, against 476 and 397 in the two preceding weeks. Of these 418 deaths 174 resulted from measles, 98 from whooping-cough, 68 from infantile diarrhœal diseases, 33 from diphtheria, 23 from scarlet fever, and 22 from enteric fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases was equal to 1·2 per 1000, against 1·4 and 1·2 in the two preceding weeks. The deaths attributed to measles, which had been 161, 204, and 166 in the three preceding weeks, rose to 174 last week, and caused the highest annual death-rates of 2·1 in Ipswich, 2·5 in Cardiff, 2·7 in Gateshead, 3·8 in Merthyr Tydfil, and 4·9 in Rotherham. The deaths referred to whooping-cough, which had declined from 152 to 103 in the three preceding weeks, further fell to 98 last week; the highest annual death-rates from this cause were 1·1 in St. Helens, in Manchester, and in Salford, 1·4 in Plymouth, and 1·6 in Leyton. The fatal cases of diarrhœa and enteritis among infants under two years of age, which had been 65, 69, and 56 in the three preceding weeks, rose to 68 last week, and included 24 in London and its suburban districts, 8 in Liverpool, 4 in Manchester, 3 in Birmingham, and 3 in Leeds. The deaths attributed to diphtheria, which had been 36, 47, and 34 in the three preceding weeks, were 33 last week; 12 deaths were registered in London, 4 in Portsmouth, 2 in West Ham, and 2 in Cardiff. The deaths referred to scarlet fever, which had averaged 18 in the nine preceding weeks, rose to 23 last week, of which number 5 were recorded in Liverpool, 2 in London, and 2 in Leeds. The fatal cases of enteric fever, which had been 17, 14, and 20 in the three preceding weeks, were 22 last week, and included 5 in Bradford, 4 in Manchester, and 2 in Birmingham.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had been 1213, 1231, and 1245 at the end of the three preceding weeks, had further increased to 1291 on Saturday last; 185 new cases of this disease were admitted to these institutions during the week, against 146, 182, and 155 in the three preceding weeks. These hospitals also contained on Saturday last 946 cases of diphtheria, 535 of whooping-cough, 453 of measles, and 35 of enteric fever, but not one of small-pox. The 961 deaths from all causes in London were 42 fewer than the number in the previous week, and were equal to an annual death-rate of 11·1 per 1000. The deaths referred to diseases of the respiratory system, which had steadily declined from 244 to 143 in the four preceding weeks, further fell to 140 last week, and were 1 less than the number recorded in the corresponding week of last year.

Of the 4183 deaths from all causes in the 95 towns, 171 resulted from different forms of violence, and 345 were the subject of coroners' inquests. The causes of 35, or 0·8 per cent., of the deaths registered were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified last week in Manchester, Leeds, Bristol, West Ham, Bradford, Hull, Nottingham, Stoke-on-Trent, and in 65 other smaller towns. The 35 uncertified causes of death included 4 in Liverpool, 3 in Birmingham, 3 in South Shields, and 2 each in London, Southend-on-Sea, Blackpool, Rotherham, Gateshead, and Newport (Mon.)

HEALTH OF SCOTCH TOWNS.

In the 18 largest Scotch towns, with an aggregate population estimated at 2,182,400 persons in the middle of this year, 1111 births and 648 deaths were registered during the week ending June 8th. The annual rate of mortality in these towns, which had steadily declined from 15·9 to 15·0 per 1000 in the four preceding weeks, rose to 15·5 per 1000 in the week under notice. During the first ten weeks of the current quarter the mean annual rate of mortality in these Scotch towns averaged 15·8 per 1000, and was 2·3 per 1000 in excess of that recorded in the 95 large English towns during the same period. The annual death-rates in the several Scotch towns last week ranged from 5·2 in Clydebank, 7·5 in Motherwell, and 8·6 in Govan, to 18·1 in Glasgow, 18·7 in Ayr, and 24·7 in Greenock.

The 648 deaths from all causes were 19 in excess of the number in the previous week, and included 70 which were referred to the principal epidemic diseases, against numbers decreasing from 71 to 57 in the three preceding weeks. Of these 70 deaths, 33 resulted from measles, 15 from infantile diarrhœal diseases, 9 from whooping-cough, 5 from scarlet fever, 5 from diphtheria, 2 from enteric fever, and 1 from typhus, but not one from small-pox. These 70 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·6 per 1000, against 1·2 per 1000 in the 95 large English towns. The deaths attributed to measles, which had declined from 32 to 25 in the three preceding weeks, rose to 33 last week, and included 9 in Dundee, 8 in Glasgow, 4 in Edinburgh, 4 in Coatbridge, 3 in Partick, and 3 in Hamilton. The deaths of infants under two years of age referred to diarrhœa and enteritis, which had declined from 16 to 7 in the three preceding weeks, rose to 15 last week; 7 deaths occurred in Glasgow, 3 in Dundee, and 2 in Aberdeen. The fatal cases of whooping-cough, which had decreased from 17 to 10 in the three preceding weeks, were 9 last week, and included 2 each in Glasgow, Edinburgh, Dundee, and Aberdeen. The deaths referred to scarlet fever numbered 5, against 3 in each of the two preceding weeks, and included 2 in Greenock. The deaths attributed to diphtheria, which had increased from 3 to 10 in the four preceding weeks, declined to 5 last week; 3 deaths were recorded in Glasgow. The 2 deaths from enteric fever and the fatal case of typhus were registered in Glasgow.

The deaths referred to diseases of the respiratory system in the 18 Scotch towns, which had been 103, 89, and 93 in the three preceding weeks, rose to 107 last week; and 21 deaths resulted from different forms of violence, against numbers decreasing from 31 to 25 in the four preceding weeks.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an estimated population of 1,157,014 persons in the middle of this year, 703 births and 417 deaths were registered during the week ending June 8th. The annual rate of mortality in these towns, which had been 16·9 and 18·0 per 1000 in the two preceding weeks, further rose to 18·8 per 1000 in the week under notice. During the first ten weeks of the current quarter the mean annual death-rate in these Irish towns averaged 19·8 per 1000; in the 95 large English towns during the same period the mean annual death-rate did not exceed 13·5 per 1000, while in the 18 Scotch towns it was equal to 15·8 per 1000. The annual death-rates in the several Irish towns last week were equal to 20·5 in Dublin (against 11·1 in London), 16·1 in Belfast, 22·5 in Cork, 19·1 in Londonderry, 28·5 in Limerick, and 20·9 in Waterford; while in the 16 smallest of these towns it did not exceed 16·6 per 1000.

The 417 deaths from all causes were 18 in excess of the number in the previous week, and included 32 which were referred to the principal epidemic diseases, against 34 and 31 in the two preceding weeks; of these 32 deaths, 15 resulted from measles, 9 from whooping-cough, 4 from scarlet fever, 3 from infantile diarrhœal diseases, and 1 from enteric fever, but not one from diphtheria or from small-pox. These 32 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·4 per 1000; the death-rate from these diseases last week did not exceed 1·2 per 1000 in the 95 large English towns, while in the 18 Scotch towns it rose to 1·6 per 1000. The deaths attributed to measles, which had increased from 8 to 12 in the three preceding weeks, further rose to 15 last week, and comprised 14 in Dublin and 1 in Clonmel. The deaths referred to whooping-cough, which had been 7, 14, and 6 in the three preceding weeks, rose to 9 last week, and included 6 in Belfast and 2 in Dublin. The fatal cases of scarlet fever numbered 4, against 2 in each of the three preceding weeks, and included 3 in Dublin. The deaths attributed to diarrhœa and enteritis, which had been 8 and 6 in the two preceding weeks, further declined to 3 last week, all of which related to infants under two years of age. The fatal case of enteric fever was recorded in Newry.

The deaths referred to diseases of the respiratory system, which had steadily declined from 135 to 72 in the eight preceding weeks, rose to 84 in the week under notice. Of the 417 deaths from all causes in the 22 Irish towns, 135, or 32 per cent., occurred in public institutions, and 8 resulted from different forms of violence. The causes of 11, or 2·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 95 English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Order in Council of April 1st, 1881, Staff-Surgeon Walter Perceval Yetts has been allowed to withdraw from His Majesty's Naval Service with a gratuity (dated June 5th, 1912).

The following appointments have been notified:—Staff-Surgeons: G. H. S. Milln to the *Alecto*, on commissioning. W. P. Hingston to the *Vivid*, for Royal Naval Barracks. Surgeon: R. J. Barlee to the *Duke of Edinburgh*.

ARMY MEDICAL SERVICE.

Colonel Harold G. Hathaway, on completion of four years' service in his rank, is placed on the half-pay list (dated June 8th, 1912).

ROYAL ARMY MEDICAL CORPS.

The undermentioned Majors to be Lieutenant-Colonels:—John H. E. Austin, vice B. M. Skinner, M.V.O., promoted (dated May 4th, 1912). William T. Mould, vice R. R. H. Moore, retired (dated May 8th, 1912). Alfred W. Bewley, vice J. V. Salvage, retired (dated May 15th, 1912). Charles A. Stone, vice R. Kirkpatrick, C.M.G., promoted (dated May 21st, 1912).

Lieutenant-Colonel M. T. Yarr has been transferred from the Scottish Command to the London District for appointment as Senior Medical Officer of the London Recruiting Area. Lieutenant-Colonel T. G. Lavie has taken up duty in Malta on transfer from the Irish Command. Lieutenant-Colonel H. S. McGill has arrived home for duty from Secunderabad on completion of his tour of foreign service. Lieutenant-Colonel W. L. Gray, on arrival in India, has been appointed to command the Station Hospital at Jullundur Cantonment. Lieutenant-Colonel E. A. Burnside has been transferred from the Station Hospital at Bellary to Bangalore. Lieutenant-Colonel E. G. Brown, at present in charge of the Military Hospital at Delhi, has been selected for appointment as Honorary Surgeon on the personal staff of H.E. the Viceroy and Governor-General of India.

Major J. Tobin has left Devonport for a tour of service at Gibraltar. Major C. S. Smith has joined for duty at Dum Dum. Major L. Wood has been transferred from Manchester to the Station Hospital at Hyderabad, Sind. Major C. B. Martin, lately holding charge of the Medical Division at the Royal Victoria Hospital, Netley, has taken up duty at the Military Hospital at Cahir. Major V. J. Crawford has been appointed Specialist in Midwifery and Diseases of Women and Children at the Military Families Hospital, Curepipe, Mauritius. Major H. E. M. Douglas, V.C., has joined the London District and taken up duty at Queen Alexandra's Military Hospital as Clinical Assistant. Major F. J. W. Porter, D.S.O., on arrival in India, has been appointed to command the Military Hospital at Bellary, Madras Presidency. Major J. E. Hodgson, at present holding medical charge of the troops in Wellington Barracks, London, has been placed under orders for service abroad during the coming trooping season.

Captain W. J. Weston has arrived home for duty from Gibraltar. Captain E. G. Anthonisz, on completion of a tour of duty in India, has been appointed to the Irish Command. Captain H. T. Stack has taken up duty at the Station Hospital, Bareilly. Captain C. Ryley has been transferred from Shoeburyness to Chatham. Captain W. Benson has been posted to the Dublin District on completion of a tour of service in the Second (Rawal Pindi) Division. Captain C. F. White has been appointed to Portland. Captain C. W. Bowle has been transferred from Multan to the Military Hospital at Jubbulpore. Captain H. C. Sidgwick, Captain N. Low, Captain R. H. L. Cordner, and Captain H. O. M. Beadnell have been selected to attend the next course for promotion at the Royal Army Medical College,

Grosvenor-road. Captain C. R. Sylvester-Bradley has taken up duty at Exeter as Adjutant of the School of Instruction. Captain T. B. Unwin has been granted one year's leave of absence home from West Africa. Captain A. G. Wells has been appointed in charge of the Followers Hospital and Staff Surgeon at Multan. Captain C. Scaife has taken up duty at Colaba as Specialist in the Prevention of Disease, and has been placed in charge of the Bombay Brigade Bacteriological Research Laboratory. Captain E. T. Potts has been appointed to the Dublin District on return from South Africa. Captain T. S. Blackwell, on return from Bhamo, has taken up duty in the Irish Command. Captain F. D. G. Howell has been transferred from Multan to Lahore. Captain G. P. A. Bracken has been selected to command the Station Hospital at Malapuram, Madras Presidency. Captain E. V. Aylen has taken up duty as Specialist in Dermatology and Venereal Diseases to the Second (Rawal Pindi) Division. Captain A. D. O'Carroll, on return from Aden, has been appointed to the Southern Command. Captain T. S. Eves has been transferred from the Military Hospital at Agra to Lucknow for duty. Captain W. J. E. Bell has arrived home for duty from Hong-Kong. Captain B. Johnson has been transferred from Rangoon to Thayetmyo, Burma. Captain M. J. Lochrin has joined the Station Hospital, Bellary, on transfer from Bangalore. Captain E. D. Caddell has taken up duty at Karachi. Captain A. H. Jacob has been transferred from the Military Hospital at Rawal Pindi to Attock. Captain W. B. Purdon has joined at Cannanore on appointment to command the Station Hospital. Captain T. C. C. Leslie, on return from Maritzburg, has been posted to the Irish Command. Captain M. O. Wilson has been transferred from Ambala to do duty at the Station Hospital, Jullundur. Captain H. V. Bagshawe, specialist in State medicine, at present serving at Sheffield, has been placed under orders for a tour of service abroad during the coming trooping season.

Cadet David Gilmour, from the Edinburgh University Contingent, Officers Training Corps, to be Lieutenant (on probation) (dated May 15th, 1912).

INDIAN MEDICAL SERVICE.

Colonel R. N. Campbell, C.I.E., inspector-general of civil hospitals in Eastern Bengal and Assam, has been appointed Inspector-General of Civil Hospitals and Prisons and Sanitary Commissioner of Assam.

Lieutenant-Colonel J. Lloyd Jones has been granted privilege leave of absence for two months and 18 days, combined with furlough for four months and 14 days. Lieutenant-Colonel F. J. Drury has taken up duty as Inspector-General of Civil Hospitals in Bihar and Orissa. Lieutenant-Colonel J. Chaytor-White, sanitary commissioner in the United Provinces of Agra and Oudh, has been granted six months' extension of leave of absence on medical certificate. The services of Lieutenant-Colonel B. J. Singh have been placed at the disposal of the Government of Bihar and Orissa. Lieutenant-Colonel B. H. Deare, civil surgeon at Darjeeling, has been selected for appointment as Professor of Materia Medica at the Medical College, Calcutta, and Physician to the College Hospital. Lieutenant-Colonel A. W. T. Buist, civil surgeon at Ambala, has been granted 19 months' leave of absence. Lieutenant-Colonel R. H. Castor has taken over charge as Superintendent of the Myingyan Central Jail.

Major W. V. Coppinger has been appointed to officiate as Professor of Ophthalmic Surgery at the Medical College Hospital, Calcutta, during the absence on leave of Lieutenant-Colonel F. P. Maynard. Major E. C. McLeod has arrived home on leave of absence. Major M. Dick has assumed Civil Medical Charge of the Meiktila District. Major F. Smith, second-class agency surgeon, Bombay Presidency, has been posted as Civil Surgeon at Peshawar. Major C. H. Watson has been granted 90 days' leave of absence. Major J. C. H. Leicester has been appointed Civil Surgeon of the second class. Major L. E. Gilbert, in civil employ in Burma, has been selected for appointment as Surgeon on the personal staff of H.E. the Governor of Madras Presidency. Major J. R. J. Tyrell has arrived home on 12 months' leave of absence from India. Major H. Bennett has been appointed Civil Surgeon at Karachi.

Captain A. W. Greig has been appointed to the Jail Department in the Punjab. The services of Captain A. Cameron, plague medical officer in the Punjab, have been replaced at the disposal of the Education Department of the Government of India. On transfer from Rawal Pindi, Captain C. E. Southon has been appointed Plague Medical Officer at Shahpur. Captain G. F. I. Harkness, on relief from Sind, has been posted to Poona for general duty. Captain S. C. Pal, senior medical officer at Farrukhabad, has been appointed to hold civil medical charge of Farrukhabad in addition to military duty. Captain J. G. G. Swan, civil surgeon at Ludhiana, has been transferred to Dalhousie. The services of Captain A. E. Grisewood, plague medical officer at Delhi, have been placed at the disposal of the Chief Commissioner of the Central Provinces. Captain C. A. Gill has arrived home on leave of absence from India. Captain C. L. Dunn, officiating deputy sanitary commissioner in the Punjab, has been deputed to Amritsar in connexion with anti-malarial duties. Captain A. W. M. Harvey has been appointed a Specialist in the Prevention of Disease and placed in charge of the Bacteriological Research Laboratory at Dehra Dun. Captain R. D. MacGregor, Madras Presidency, has been granted six months' extension of leave on medical certificate. Captain W. A. Justice has taken up duty as Sanitary Commissioner in Madras Presidency in succession to Colonel R. A. H. Thompson.

TERRITORIAL FORCE.

Army Medical Service.

Colonel John Raglan Thomas, M.D., K.H.P., Assistant Director of Medical Services, Wessex Division, on completion of his tenure of appointment, resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated June 12th, 1912).

Royal Army Medical Corps.

3rd West Lancashire Field Ambulance, Royal Army Medical Corps: Captain Elisha H. Monks to be Major (dated May 14th, 1912).

4th London Field Ambulance, Royal Army Medical Corps: The undermentioned officers to be Captains:—Lieutenant Percy W. Thompson (dated April 24th, 1912) and Lieutenant John R. Holmes (dated April 26th, 1912).

2nd Welsh Field Ambulance, Royal Army Medical Corps: Lieutenant Henry J. Dunbar to be Captain (dated April 22nd, 1912).

4th Scottish General Hospital, Royal Army Medical Corps: Officer whose services will be available on mobilisation:—Captain Robert Buchanan Carslaw, from the Lowland Mounted Brigade Field Ambulance, Royal Army Medical Corps, to be Captain (dated May 7th, 1912).

1st Northern General Hospital, Royal Army Medical Corps: Captain Horsley Drummond resigns his commission (dated June 8th, 1912).

1st South Midland Mounted Brigade Field Ambulance, Royal Army Medical Corps: Lieutenant Donald Buchanan is seconded for service under the Colonial Office (dated May 25th, 1912).

2nd South Midland Mounted Brigade Field Ambulance, Royal Army Medical Corps: Major Charles J. Deyns to be Lieutenant-Colonel (dated April 1st, 1912).

1st South-Western Mounted Brigade Field Ambulance, Royal Army Medical Corps: Captain Samuel Maclean to be Major (dated April 1st, 1912). Arthur Harold Savage to be Lieutenant (dated April 20th, 1912).

1st Home Counties Field Ambulance, Royal Army Medical Corps: Major John M. Rogers-Tillstone to be Lieutenant-Colonel (dated April 1st, 1912.

3rd London (City of London) Field Ambulance, Royal Army Medical Corps: Major John R. Whait to be Lieutenant-Colonel (dated April 1st, 1912).

2nd South Midland Field Ambulance, Royal Army Medical Corps: John Dale to be Lieutenant (dated May 1st, 1912).

3rd Wessex Field Ambulance, Royal Army Medical Corps: Aurelius Victor Maybury to be Lieutenant (dated March 1st, 1912).

For Attachment to Units other than Medical Units.—George Frederic Morley (late Surgeon-Captain, 3rd (Duke of Connaught's Own) Volunteer Battalion, The Hampshire Regiment) to be Captain (dated April 12th, 1912). George Henry Hitchcock Waylen (late Second Lieutenant, 2nd Volunteer Battalion, The Duke of Edinburgh's (Wiltshire Regiment)) to be Lieutenant (dated April 24th, 1912). Henry Mellor Fort (late Captain, 10th Battalion, the Manchester Regiment) to be Captain (dated June 12th,

1912). Lieutenant Percy Cecil Parker Ingram, from the 2nd London (City of London) Field Ambulance, Royal Army Medical Corps, to be Lieutenant (dated June 8th, 1912).

Attached to Units other than Medical Units.—Lieutenant Charles B. Baxter to be Captain (dated Dec. 7th, 1911). Captain Robert J. R. C. Simons to be Major (dated May 11th, 1912). Lieutenant-Colonel Charles Boyce resigns his commission and is granted permission to retain his rank and to wear the prescribed uniform (dated June 12th, 1912). Lieutenant William S. Paterson to be Captain (dated May 2nd, 1912). Captain Thomas Kay to be Major (dated May 3rd, 1912). Lieutenant-Colonel and Honorary Surgeon-Colonel John M. Harper resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated June 8th, 1912). Captain Charles H. Sedgwick resigns his commission (dated June 8th, 1912).

Correspondence.

"Audi alteram partem."

THE TREATMENT OF ANAPHYLACTIC SHOCK.

To the Editor of THE LANCET.

SIR,—I was very interested in the letter[1] by Dr. H. M. Wilson and Dr. J. R. O'Brien on the treatment of anaphylactic shock. My interest is increased by the fact that the patient is one whom I have known for nearly three years, and one whom I have seen on several occasions right up to the time when Dr. Wilson was attending her, and since. I can scarcely bring myself to believe that this is a case of anaphylactic shock, but rather a case of ordinary heart failure (associated, it is true, with exophthalmic goitre), which was relieved by a method often adopted in such severe cases. I give below a short and rough account of the patient's medical history so far as I can remember it, and your readers can then judge for themselves whether they still agree with the diagnosis of "anaphylactic shock." Dr. Wilson and Dr. O'Brien appear not to be aware of one or two very important points, a knowledge of which seems to me to put a different aspect on the case altogether.

A female, aged 44, married. I first saw the patient two and three-quarter years (1909) ago in consultation. At that time she was suffering with well-marked exophthalmic goitre associated with severe heart trouble. A photograph which I saw at that time, and which was taken 16 years previously, seemed to show well-marked exophthalmos. She said she had suffered with palpitation of the heart for some months. Her condition at that time was, besides Graves's disease, great dyspnœa, even when in bed, œdema of the legs, pulse very rapid and weak, and the heart showed dilatation. The position of the impulse I cannot remember, but it was a good way out from the normal. I advised her then to go to bed for six months at the least on account of her heart. She remained in bed for three months. In August, 1910, she was admitted into the Royal Free Hospital and treated in bed for three months. For the first six weeks she was put on Rodagen. On her discharge she was feeling much better and went to a convalescent home for two weeks. From January to July, 1911, she was under medical attention on and off, and again in December, 1911. During this period her symptoms were dyspnœa, œdema of legs, and palpitation. About Christmas, 1911, the patient suffered with abdominal pain, felt more especially over the epigastrium and over the bladder area. The other symptoms were as noted above. On Feb. 26th, 1912, the patient was put on thyroidectin capsules, 5-grain, three times a day. After two days the abdominal pain was severe, and the dose was reduced to 2½ grains three times a day. From Feb. 26th till May 19th the patient took in all about 54 5-grain capsules, the dose being half a capsule three times a day. On May 13th, 1912, the patient came to the surgery and saw me. She was very ill, and I told her that she was not fit to be about but must go to bed. She had much dyspnœa, weak and rapid pulse, and œdema of ankles. On May 19th, 1912, the patient was taken much worse. Severe abdominal pain over bladder, liver, and epigastrium. Thyroidectin was omitted. On May 24th, 1912, I saw the patient who was very ill in bed. Her trouble was evidently the result of cardiac failure. She could not lie down in bed on account of the great dyspnœa, which was typical of heart disease. There were œdema of legs, rapid pulse, 150, and very weak and irregular. The heart: impulse seventh space, 6 in. from middle line in axilla. Dulness above to second space, and to right border of sternum. A systolic bruit at apex. Heart's action very irregular. There was great tenderness over epigastrium and liver. Slight jaundice of conjunctivæ and patient was vomiting. I found that for the five weeks previously she had been taking too many liberties with her strength, doing the cooking and some household duties. Her condition was very similar to that which was present on the first occasion that I saw her. On that and also this visit I hardly thought she would pull round. On May 27th, 1912, Dr. Wilson and Dr. O'Brien saw her and carried out their treatment, described in their letter, a treatment which in these severe cases is well known to "snatch a patient from imminent death." On June 7th, 1912, I saw the patient again. Her urgent condition had been relieved, but otherwise she was much the same. Pulse 120, dyspnœa present, but the patient could lie down with two pillows. Œdema of legs and abdominal pain.

From the above account it would appear that this "alarming train of symptoms which developed" is really no new development due to the condition called anaphylactic shock, but rather a more severe form of a train of heart symptoms which have been present for about three years, and which became acute and urgent as a result of the patient having taken too many liberties during the previous five weeks.

I am, Sir, yours faithfully,

T. PERCIVAL BERRY, M.D. Lond.

Swindon, June 10th, 1912.

[1] THE LANCET, June 8th, p. 1567.

RAGGED SCHOOL UNION AND SHAFTESBURY SOCIETY.

To the Editor of THE LANCET.

SIR,—It is at once a Christian duty and a patriotic thing to give the children of the stifling streets and courts of poorest London at least a glimpse of their own country. It is so very easy to provide this overwhelming pleasure—10*s.* per child per fortnight.

The long experience of the Ragged School Union and Shaftesbury Society in this work of arranging holidays for slum children, both for the day and the fortnight, or longer, is a guarantee, I think, of wisdom in the expenditure of all donations for this health-giving purpose, and I can personally vouch for the lasting all-round benefits that such benevolence confers.

I appeal to your readers to enable this society to send at least 10,000 poor children to our holiday homes this summer who must otherwise remain in London. Contributions, large or small, will be gratefully acknowledged if sent to Sir John Kirk, 32, John-street, Theobalds-road, London, W.C.

I am, Sir, yours faithfully,

June 6th, 1912. JOHN KIRK, Director.

THE ABOLITION OF POST-OPERATIVE PAIN.

To the Editor of THE LANCET.

SIR,—Hitherto we have not been enabled to put the finishing touch on the efforts of science by ridding a patient finally and definitely of the reactionary pain following on wounds and injuries inflicted by the surgeon or coming under the category of accidents. Popular dread of all surgical operations, in my experience, is aimed chiefly at the suffering which they undergo or expect to undergo or have seen friends suffer after an operation, or an accidental injury such as a crushed or broken limb. The use of a method entirely free from every surgical objection, which enables a surgeon to guarantee a patient on whom he is about to operate a total freedom of any pain whatsoever after operation, will, I venture to hope, prove a great advance in modern surgical procedure. After all, what I now ask space to call attention to is really but a different and extended form of safe local

anæsthesia. This method is the continuation, *locally*, of anæsthesia which during an operation has been general.

I claim that it is possible by the infiltration of the area of an operation wound before making that wound, with a solution of quinine and urea hydrochloride, to produce a total absence of any reactionary pain in the area of operation after the patient has recovered from the effects of the general anæsthetic. The method of use is quite simple and within the reach of any operator. The nerve supply of an area being known, it is quite easy to distribute from five to ten c.c. of a 1 per cent. solution over that area, and then proceed with the operation as under ordinary conditions. The patient is first put under a general anæsthetic, and the surgeon proceeds to make multiple injections of a sterilised solution of quinine and urea hydrochloride all over and around the site of his proposed incisions and manipulations.

The effect of these injections is to produce an almost total loss of sensation in the parts for a length of time varying from 24 hours to 6 days, with absolutely no return or vestige of post-operative pain, until healing is complete, and a minimum of operative and post-operative shock. The vitality of the tissues injected is not jeopardised; indeed, the absence of pain abolishes to a large extent reactionary stasis in the tissues, and tends to promote rapid healing. My experience so far has been that from the moment of the completion of an operation until the skin has healed the patient is not conscious of suffering from injury to the parts operated on. If further observations confirm these results the method will confer a boon on delicate and nervous women and others. Crushed limbs and fractures could be made painless and fatal shock averted by the immediate infiltration of the damaged part above the seat of injury with this solution, which is prepared for me by Messrs. Parke, Davis, and Co.

Infiltration anæsthesia by cocaine and suprarenal extract is very often accompanied by the most intense agony when the circulation of the infiltrated part begins to return and sensation is being re-established. This is not the case with quinine and urea hydrochloride anæsthesia. There is no local ischæmia. This method, I suggest, should prove most useful in diseases of the rectum and associated parts, and in compound fractures and crushed limbs, and indeed to obviate pain after injury or operation in any part of the human body accessible to a hypodermic syringe.

I am, Sir, yours faithfully,
F. W. FORBES-ROSS, M.D. Edin., F.R.C.S. Eng.

New Cavendish-street, W., June 8th, 1912.

BROMIDE OF STRONTIUM IN EPILEPSY.

To the Editor of THE LANCET.

SIR,—Some twenty years ago I read in your correspondence columns a letter from a practitioner recommending bromide of strontium in epilepsy. For a week or two afterwards the usual letters appeared from other medical men who had already tried it and found it, in their hands, no better than, or perhaps not so good as the other bromides. I tried it in a few cases in the usual small doses, and in the main I found little difference in the results obtained as compared with the bromides of potassium, sodium, or ammonium. I then experimented in several cases by increasing the dose up to ʒi., or even more, three times daily, and I have had a large measure of success in very many cases.

As my work for the last 18 or 20 years has consisted of mainly contract practice, I have had exceptional opportunities of giving any particular drug over a lengthened period and observing its effects. I find that the bromide of strontium given in large doses does more effectually control the attacks of epilepsy than the usual bromides, and is more often followed by a cure. To effect this result the treatment must be persisted in over an extended time; in many cases 10 to 12 months' treatment is necessary, and in a few cases even a few months longer. I have found no difficulty in giving it over this extended time, the patients getting into a habit of never missing a dose. Excluding those cases which are of old standing and in which the will power and brain seem impaired, and excluding those due to reflex causes, I find all other cases susceptible to treatment by the strontium bromide. Those which most readily yield a good result are the young adults who have not for an extended period suffered from attacks, but even in middle-aged patients success is usually attained by persistent administration of the drug.

Attacks of epilepsy during the time the patient is under treatment are rare. I have given it in many cases where from its first inception no attacks have occurred, and the patient has gone right on to recovery. In those cases a much shorter period is required for treatment, but I always endeavour, even in the absence of attacks, to keep the patient on the drug as long as I can in reason. I find that though these large doses are well borne by the stomach they cause a great deal of mental depression, but the patient, encouraged by the prospect of recovery and suffering from the recollection of the attacks, readily bears the inconvenience. Acne is much rarer than after the administration of the other bromides. I have given equally large doses of the three bromides over an extended time, but the results were not so satisfactory or so permanent.

I have now a number of patients who were formerly severe sufferers from attacks of epilepsy, but who for some years have been free from them, and so I presume I may consider them as cured. I think I have waited a reasonable time before rushing into print to lay the results of my experience before my professional brethren. I have no doubt they will experience the same good results when they experiment with the drug in suitably large doses.

I am, Sir, yours faithfully,
Lowestoft, June 10th, 1912. M. R. CALLENDER.

THE ESTIMATION OF NICOTINE IN TOBACCO.

To the Editor of THE LANCET.

SIR,—May we be allowed to correct an error, due to a misunderstanding, in your comments on our recent paper on the Estimation of Nicotine in Tobacco? You state that the solubility of the iodine compound of nicotine affects our method as well as that employed in your laboratory, but this is not so. The compound is insoluble in presence of excess of iodine, and is therefore completely removed in our method; it is only when it is washed with water that its solubility introduces an error. As to the advantages or otherwise of distillation, its tediousness must be admitted; but the suggestion that the minute quantity of potash that may be formed causes loss of alkaloid can hardly be taken seriously, especially when you refer to the results of an experiment which gave an error of 11 per cent. as "accurate."

We are, Sir, yours faithfully,
E. F. HARRISON.
London, W.C., June 11th, 1912. P. A. W. SELF.

*** An error of 11 per cent. of the total nicotine present means, of course, that in a tobacco containing actually 1·00 per cent. of nicotine the method of analysis would give 1·10 per cent.—ED. L.

MALIGNANT DISEASE OF THE UTERUS.

To the Editor of THE LANCET.

SIR,—In your issue of May 25th Dr. T. W. Eden, writing on cancer of the corpus uteri, makes some interesting statements, but he does not draw from them certain obvious conclusions.

He first says with regard to fecundity in the two kinds of uterine cancer: "The average number of children borne was, in cancer of the cervix 4·1; in cancer of the body 1·1." He then goes on to state that cancer of the cervix is relatively commoner in the poor than the rich, more so than cancer of the body, which he thinks is not. He found that in cases of cervical cancer the proportion of hospital to private patients was 10 to 1, and in cancer of the body 3 to 1. He quotes similar opinions of Sir William Sinclair and others, "which," he says, "I share myself, that cancer of the cervix is a disease which falls with especial severity upon the poorer classes, and it is therefore probable that poverty and insanitary conditions of life are predisposing causes of its occurrence. My impression is, although I admit that I am unable to prove it, that this is not the case with cancer of the body."

While doubtless the statements of fact are correct, it is difficult to understand how poverty and insanitary conditions can cause cancer. The explanation, of course, really lies in

the very great multiparity of the poor as compared with the rich, and falls in with Dr. Eden's previous statement as regards the great predominance of multiparity in cancer of the cervix over cancer of the corpus uteri.

It being accepted by all that multiparity is one of the contributory causes of cervical cancer, and knowing the great fertility of the poor as compared with the better classes, one would expect a very large preponderance of cervical carcinoma among the poor.

As to the reason why multiparity encourages the incidence of cancer, it is certain that any scar tissues and tissues exposed to continued irritation are more liable to cancer than healthy organs. This also explains the association of cancer of the body of the uterus with fibroids, the pressure of the fibroids possibly leading to some change in the mucous membrane that produces carcinoma.

I am, Sir, yours faithfully,

R. LEONARD LEY, M.B., B.C. Cantab, M.R.C.S. Eng., L.R.C.P. Lond.

June 11th, 1912.

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—I am given to understand from more or less official sources that the two chief points in the profession's protest against the medical administration of the Insurance Act will not and cannot be granted by the Chancellor of the Exchequer nor by the Insurance Commissioners: I refer to (1) the £2 a week income-limit; and (2) the 8*s.* 6*d.* capitation grant in cases where that method of payment is adopted (indeed, the Act implicitly seems to contemplate no other method).

If this be true, is it not time that the profession was made aware of the fact, and I would like to ask, What must now be the attitude of the profession? Time is rapidly passing, and though I believe we are organising pretty rapidly against unjust and ungenerous treatment, our efforts are at present being somewhat scattered in aim owing to doubts as to the exact and precise object against which they should be directed; it is high time these efforts were focussed and strengthened.

I am, Sir, yours faithfully,

Harley-street, W., June 10th, 1912. FRED. J. SMITH.

To the Editor of THE LANCET.

SIR,—In an article in the *Daily Mail* of June 3rd on the labour unrest, entitled "What we Want," Mr. Vernon Hartshorn, putting the case for the labouring classes as regards the present social upheaval, makes the following statement: "The demand which members of the British Medical Association are making for what represents to them a fair minimum living wage stands on exactly the same footing as the underground workers' claim to a guaranteed minimum which represents his modest estimate of a livelihood." Then he adds: "Both claims are being advanced by the same methods. The doctor puts forward his claim on the grounds of justice and his indispensable value to the community. The underground worker does the same. The doctor is prepared to strike if his claim is not conceded. So is the underground worker." This is a so frequently repeated misstatement that it must be definitely contradicted as widely and as emphatically as possible, and I am glad to see that you have disposed of it in the leading article in THE LANCET of June 1st. The doctor does not propose to "strike" at all in the sense in which the word is generally used. He does not refuse to do the necessary work. He will continue to tend the sick as he has always done on the terms he has always accepted—viz., that the individuals served should pay him for services rendered on a scale commensurate with their capabilities—and to attend to urgent and emergency cases without question to his probable payment therefor, and to give his services with the generosity that has always characterised the profession as a whole in those cases where payment is out of the question. What he does refuse to do is to work on a particular plan and for a particular fee that is being thrust upon him against his sense of right and justice. If the doctor resigns all his contract practice and refuses to work the Insurance Act, not a single individual in the whole country will be absolutely deprived of the necessary attendance in his hour of need. He will be in just the same position as he is to-day. Surely it requires no more than ordinary intelligence to see the difference between that course and the course of any body of industrial workers—say coal-miners or transport men—who, unless and until their demands are conceded, stop all work of that kind, refusing to do it themselves or to allow others to do it, whereby the community at large and every individual in it is deprived of the particular necessary of existence for his own use. Each individual sick person will be able to receive the service that his necessity demands for such fee as he can afford, or even in fitting cases for none at all, even though all club contract practice is repudiated and the profession as a whole refuses to work the medical benefit of the Insurance Act. In short, the doctor does not "strike."

I am, Sir, yours faithfully,

June 6th, 1912. K. M.

THE CONFERENCE ON CONSUMPTION AT MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

THE fourth annual conference of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis was held at the Milton Hall, Manchester, on June 5th, 6th, and 7th. It was attended by about 600 delegates, including representatives of the principal civic authorities of the United Kingdom. The delegates were welcomed by the Lord Mayor, who gave a conversazione in their honour. The University authorities also gave a reception in the Museum of the University.

Opening Address.

Professor E. W. HOPE, medical officer of health of Liverpool, presided and delivered an opening address in which he showed how the great sanitary undertakings, especially municipal schemes for the supply of pure water to cities, were coincident with the great decline in the death-rate from tuberculous disease. The experiences of the city of Manchester had accumulated a large amount of valuable material for the elucidation of the modes of spread of consumption. The control of poor dwellings was a great difficulty. Many homes became notoriously unhealthy from the point of view of consumption, not because the building itself was vicious in its plan or construction, but because of the way in which it was occupied; the subletting, the overcrowding, the insufficient cubic space and consequent foul, vitiated air, as everybody knew, favoured the development and spread of tuberculosis. The proper control of houses such as these was a problem of great magnitude in every large town, and constituted an important element in the control of tuberculosis. In Liverpool it was found that formerly the mortality from phthisis over large areas of this class of dwelling averaged 4 per 1000 per annum, but after clearance and rehousing schemes had been carried out the rate was reduced to 1·9 per 1000. In Liverpool at one time 18,000 sublet houses accommodated 160,000 people, but the standard of air-space had been increased from 250 cubic feet per head, not including children, to 400 cubic feet for each man, woman, and child. At present there were only two convictions for overcrowding where formerly there were seven. Other factors in the reduction of the death-rate were open-air schools, the principle of which should be applied to all schools, and the purification of the milk-supply. Without healthy homes consumption could not be eradicated. Health congresses and exhibitions were most valuable aids in the education of the public. Probably one of the reasons of the decline in popularity of sanatoriums amongst the public generally was the extravagant hopes that had been built on them by uninformed persons. Regarding the milk-supply, Professor Hope said it was a lamentable thing that owing to the inertness of so many rural sanitary authorities the condition of large numbers of country cowsheds was bad in the extreme. The consequence was that the cows were riddled with tuberculosis and the milk was contaminated. But, one after another, great towns had actually been forced to seek Parliamentary powers to prohibit the importation into their districts of the diseased products of cows kept in the filthy and insanitary cowsheds of country places, and the fact stood out that the

milk from cows kept within the precincts of cities was freer from tuberculosis, and consequently purer and more wholesome, than that coming from many rural districts, with their greater facilities and more healthy surroundings, were these only availed of. But it was only the large towns which had these powers, and the milk excluded from these centres found its way into unprotected communities. Liverpool (following the lead of Manchester) obtained powers of this kind in the year 1900, and it was a fact, the interpretation of which Professor Hope left to others, that coincidently with putting these powers into operation two things had followed. One was that the tuberculous milk from the country had largely diminished year by year in amount, and the other was that tuberculosis amongst young children (who were the greatest milk consumers) had diminished also in an almost corresponding degree.

Tuberculosis in Childhood.

The whole of the rest of the day and part of the second day were devoted to the discussion of the question of tuberculosis in childhood.

Dr. R. W. PHILIP (Edinburgh) read a paper on the Prevalence of Tuberculosis in Childhood. Tuberculosis of the adult and adolescent was the harvest of seed sown in childhood. He thought they were too prone to confine their attention to the completed picture of the disease. Fresh air must be brought into the poor man's nursery. He urged the importance of detecting the presence of tuberculosis in school children.

Professor S. DELÉPINE gave an account of the infectivity of human and bovine tuberculosis. Tuberculosis could be communicated from animal to man as well as from man to man. The sputum of tuberculosis, even when dried and floating as dust, was infective. Among children under five years there were only 100 cases of lung disease to 850 cases of disease of other organs, while between 35 and 45 years of age there were 100 cases of lung disease to less than 6 of other forms. It was impossible to resist the conclusion that children were more likely to be infected through their food. Tuberculous cows' milk, as he had proved both by experiments and observations, constituted the most important infecting material of bovine origin. Whatever the channel of infection, some bacilli might pass into the blood and give rise to tuberculosis in various parts of the body. Localised tuberculosis of the lymphatic glands, bones, liver, spleen, and other organs, when not associated with pulmonary tuberculosis, was generally due to infection through the alimentary tract.

Dr. NATHAN RAW dealt with the same subject. He stated that 20–25 per cent. of the cows in the country were tuberculous, and in 2 per cent. the udders were infected. Abdominal and other forms of tuberculosis were common, but consumption was rare in children under 12. The other forms of tuberculosis were of bovine origin, and consumption was of human origin. The nation would do well to spend £2,000,000 in getting rid of cows affected by tuberculosis of the udders. He urged the boiling of milk.

Dr. J. E. SQUIRE stated that the death-rate from tuberculous diseases was low during school age and highest before and after it.

Mrs. LESLIE MACKENZIE showed lantern slides of open-air schools and country homes which had been established by the Edinburgh school board.

Mr. E. D. TELFORD (Manchester) spoke on the hospital school. He advocated an extension of such schools for children afflicted with surgical tuberculosis. The ordinary hospitals could not cope with them, their wards being crowded with acute diseases. All that was necessary to save these children was that they be maintained in a special institution under proper conditions of hygiene and surgical treatment for a length of time sufficient for their cure. They must get hold of these cases early, place them in a specially equipped institution, maintain them there for an indefinite time—usually two or three years—and under these conditions not only would the great majority be saved, but they would be saved without deformity. Some provision should be made for teaching them, since they were often mentally above the average.

On the second day the discussion on tuberculosis in children was continued. The difficulty of early diagnosis of the disease in children largely accounted for the varying estimates of the rarity or otherwise of the disease.

The paper by Mr. H. J. GAUVAIN, of the Treloar Cripples' Hospital and College, attracted much attention. It will shortly be published in THE LANCET.

Mrs. M. D. POWER SWEENEY gave a paper with many details of the question of open-air schools, including their cost. In London the gross cost per head per year was about £24, against less than £7 in the ordinary schools.

Ventilation of Work-places.

Dr. A. RANSOME dealt specially with the necessity of providing fresh air in work places. Previously it had been found that it was not the humidity in weaving-sheds that was the cause of trouble, but the foul air. The standard of ventilation first established in this country for work-places was 9 per cent. carbon dioxide per 10,000 of air. He regretted that the new Home Office regulations lowered the standard to 11 per 10,000.

The following resolution was unanimously adopted:—

That this association protests against any lowering of the standard of ventilation in any of the work-places in the kingdom, and that a copy of this resolution be forwarded to the Home Secretary.

National Insurance Act and Tuberculosis.

The afternoon was devoted to the discussion of the powers and duties of sanitary authorities and the working of the National Insurance Act in connexion with tuberculosis.

Dr. W. LESLIE MACKENZIE dealt with the new duties imposed on local and central authorities by sanatorium benefits.

Dr. H. W. MCCONNEL, of the Kelling Sanatorium, complained that no mention of the after-care of patients discharged from sanatoriums was made in the Act.

Dr. A. K. CHALMERS, medical officer of health of Glasgow, said that in Scotland, where the people occupied tenement houses, the idea of sanatorium treatment was abused. The average cost per bed for sanatoriums, he said, was not less than £300.

Mr. F. E. FREMANTLE, medical officer of health for Hertfordshire, stated that in this country sanatoriums had actually been erected at a cost of £100 and even £50 per bed.

The TOWN CLERK of Dundee and Dr. F. E. WYNNE, medical officer of health of Wigan, criticised the Interim Report of the Tuberculosis Committee.

On Friday Councillor ARTHUR NEAL (Sheffield) dealt both eloquently and exhaustively with the different questions raised in the Interim Report, which he regarded as a valuable document for local authorities. He took a very optimistic view of the provisions of the new Act, even as regards its finance. He believed that the working of the Act would pay the local authorities, not only in health and happiness, but even in money.

Dr. C. KILLICK MILLARD, medical officer of health of Leicester, did not share Mr. Neal's optimism with regard to the financial aspects of the Act. The report demanded 9000 sanatorium beds and the same number of other hospital beds, with 250 to 300 dispensaries. These could be provided, the difficulty was their maintenance. Each sanatorium bed would cost 25*s.* per week, and other hospital beds £1, and each dispensary £1000 a year. These figures seemed to presage a heavy financial loss to the local authorities. The chronic consumptive—who was sure to break down after a course of treatment—would upset all financial calculations.

The Countess of ABERDEEN presided in the afternoon and referred to the work of the Women's Health Association in Ireland and the good results achieved. In 1907 the deaths from all forms of tuberculous disease in Ireland were 11,679 and in 1911 the number was 9623, a reduction of one-sixth, which was equal to 40 fewer deaths every week.

Miss M. E. BROADBENT, of the Children's Aid Association, suggested grants to voluntary organisations by the Insurance Committees.

Mr. E. S. KEMP, of the London Charity Organisation Society, pointed out that most consumptives would be Post Office contributors and their sick pay would soon be exhausted.

Other Papers and Lectures.

Amongst others who took part in proceedings were Professor G. SIMS WOODHEAD, Mr. JOHN PRIESTLEY, who spoke on the Special Factors making for the Extension of Tuberculosis in the School and the Measures of its Prevention, and Mr. C. E. LAST, of the Millfield Home for Children for Pulmonary Tuberculosis, who dealt with Open-air Schools. The evening lectures were given by Dr. SQUIRE, Dr. R. W.

PHILIP, and Professor SIMS WOODHEAD. The Conference was under the auspices of the city of Manchester and the county borough of Salford.

In connexion with the Conference an exhibition is being held in Salford with the object of educating the public in regard to the dread disease. The exhibition will be transferred to Deansgate, Manchester, and then to the Hulme Town hall from June 21st to 27th.

The Conference was extremely successful, the evening lectures delivered by medical men dealing with wide questions of the relation of the public to tuberculosis. Salford, too, is participating vigorously in the crusade against consumption. The mayor stated that in 1879 the death-rate in Salford from phthisis was 29 per 10,000, but in 1910 it had fallen to 13 per 10,000 owing to the improvement that had been effected in housing and general sanitation, and in the habits and material conditions of the people. There were 400 deaths per annum in Salford from phthisis, while the consumptive population of England and Wales was somewhere about 300,000.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

A Large Scheme of Extension in Connexion with the General Infirmary.

AT the usual monthly meeting of the city council a deputation from the weekly board of the infirmary, accompanied by Mr. William Middlebrook, the president of the King Edward Memorial Fund, who was Lord Mayor at the time the fund was started, had an opportunity of laying before the members of the corporation a scheme of infirmary extension of very far-reaching importance. The standing orders were suspended so that Mr. Charles Lupton, the chairman of the weekly board, should have an opportunity of explaining the scheme in detail.

As has been mentioned in this column more than once the need for extension of the infirmary is a very urgent one. It was wisely decided that so far as Leeds was concerned the best memorial which could be raised to the memory of King Edward would be a reconstruction of, and a substantial addition to, the great institution which as Prince of Wales he opened in the year 1868.

The scheme of enlargement and of reconstruction which Mr. Lupton unfolded to the corporation was, as he said, one which had been thought out mainly in the interests of the infirmary, but it had appeared to the board to be one which would effect such an improvement in the access to certain important parts of the city and would be such a great public improvement that the board had adopted the bold course of purchasing a large amount of property to the east and north of the infirmary, feeling confident that the scheme would command the sympathy and the support of the public and of the corporation. To the north and east of the present buildings there is a large amount of property to which the term "slum" may without impropriety be applied. Practically the whole of this has been bought by the infirmary, and the corporation is now asked to repurchase from the infirmary as much of this property as may suffice for the construction of a new wide thoroughfare which would continue the line of Calverley-street, which runs between the town hall and the municipal buildings, and curving to the west would strike Fenton-street some distance to the north of the infirmary. All the property to the south and west of this projected street would be available for the extension of the infirmary, and it has been secured by the institution. The streets within its area would be abolished, for their place would be more than taken by the new thoroughfare, and room for the expansion of the infirmary would be secured which would probably make the future of the institution secure for many years to come. It is not an absolutely essential part of the scheme, but it would greatly add to its excellence, especially from the point of view of its being a public improvement, if in addition to constructing the new road the corporation should, as has been suggested, demolish the existing property at the back of the town hall. Were this done a large open space would be formed between the town hall and the eastward extension of the infirmary. Of course, the scheme would cost a good deal, but in view of the value of the proposals the cost is small. The purchase of the land necessary for the construction of the street and the laying out of the street would amount to £50,000. It would be necessary to expend £31,000 on the purchase of plots to the east of the proposed street, so that a sum of £81,000 is essential for the carrying out of the infirmary ideals. If in addition to this the corporation decides, as it is hoped it will, to create an open space as explained above an additional £50,000 will be required. It is, of course, true that something may be reasonably set against this in the way of the sale of surplus property and in an increase of rateable value, but in any case the money would be well spent considering the immense improvement which would be effected in the neighbourhood. Should the area requisite for the construction of the street and the land to the east thereof be taken, as is suggested, by the corporation for a sum of £21,649, the additional area at the disposal of the infirmary for immediate and future extensions will have cost some £50,000. It may be remembered that the King Edward Fund amounts to about £110,000, though it is hoped that the full amount which was asked for—namely, £150,000, may be ultimately obtained. About £50,000, therefore, will be available for building and reconstruction. It is intended to build one new large ward pavilion serial with those at present existing on the south aspect of the infirmary, with accommodation for about 100 patients; to construct a suite of operating theatres for which there is urgent need, and to extend the accommodation for the nursing staff. These with certain minor but necessary aims must demand the immediate attention of the authorities of the infirmary. Room will also be secured for the addition of two extra ward pavilions of the same size as that which is to be immediately commenced, so that for many years it is felt that the present site will be adequate to the requirements of the infirmary.

It is gratifying to find that, so far as can be seen, the scheme has commended itself to all parties in the corporation. The infirmary stands high in the estimation of the public of Leeds, and it is with a feeling of pride that they can look forward to the carrying out of the great scheme which has been outlined.

June 11th.

BRISTOL.

(FROM OUR OWN CORRESPONDENT.)

Bristol Health Exhibition and Conference.

INSTEAD of following the example set by many of the large English towns and having a "health week," Bristol has had a health exhibition and conference at the Victoria Rooms, under the auspices of the Nurses' Social Union. Some were at first disposed to cavil at this decision, but it is now generally acknowledged that the exhibition is admirable from the educational point of view. Many interesting exhibits were sent by the General, Children's, and Eye Hospitals, but the majority came from the Nurses' Social Union itself. These were divided into 13 sections, and many of them were of the utmost practical value. One section, for example, consisted entirely of "expedients"—i.e., devices to show how much in the way of nursing appliances might be made of simple and inexpensive material, such as is likely to be available in an emergency in a cottage. Other sections of particular interest were exhibits of cookery appliances economising fuel, and a group relating to baby and infant care. In one corner was a realistic waxwork group depicting a surgical case in a slum room before and after the visit of the district nurse. Various admirable demonstrations of infant care, simple needlework, and similarly practical subjects were given several times daily. One small side room was occupied by exhibits designed exclusively for medical practitioners and nurses; this contained an interesting series of wax models and pamphlets. There were also a number of stalls, one of which, under the management of the health committee of the city council, exhibited a set of microscopic and other preparations illustrative of pathogenic bacteria and their modes of dissemination. The Red Cross Society, the ambulance brigades, and boy scouts have given displays in the adjoining rink, and every day has had its special dramatic and other entertainments. The first day of the exhibition was reserved

for nurses, but since then it has been open to the public, and though it is not yet possible to estimate the financial result, there is no doubt that the attendances have been very large. Various lectures, the subjects of which were mentioned in these columns a few weeks ago, have been delivered by distinguished lecturers, and the attendances have been gratifying. Although at the time of writing the exhibition has not yet come to an end, it may confidently be described as a great success, especially from the educational point of view.

University of Bristol: Faculty of Medicine.

In the medical prospectus for the session 1912–13, issued commendably early, there is a note of complacency. It is stated that, except for the anatomical department and the library, the work is housed in the new wing of the University, and is carried on in four lecture theatres in the annexes, laboratories of physiology, histology, pathology, bacteriology, and public health, and a spacious pathological museum. The anatomical department, also, has been more than doubled. Provision has been made for post-graduate work and for research. The opportunities for clinical teaching are also expanding, since both the Royal Infirmary and the General Hospital are extending their premises; this will add a total of over 100 beds to those now available, including a complete maternity unit. The facilities for dental work are also largely increased by the hospital extensions.

June 11th.

WALES.

(FROM OUR OWN CORRESPONDENT.)

The Welsh National Memorial and the Sanatorium Grant.

THE scheme of the executive committee of the Welsh National Memorial provides for the control of sanatoriums and other tuberculosis institutions by the committee, even though the funds in support of these institutions may come from the sanatorium grant provided through the National Insurance Act. A large number of public authorities have already approved of the committee's proposals, though they have not been accepted by many medical officers of health. The medical officer of health of Glamorgan, Dr. D. J. Morgan, has reported very strongly against the scheme to the Public Health and Housing Committee of the Glamorgan county council. He points out that it is not at all likely to encourage medical men or public health authorities so to vary the methods of research as to obtain the best results hoped for. He urges also that the administration of the sanatorium benefit should be left in the hands of the public health authorities, who should remain the responsible authorities for all administrative measures safeguarding the public health. If the proposals of the memorial committee are generally adopted, he anticipates that they will result in the carrying out of some stereotyped form of treatment, and that little or no encouragement will be given to those engaged in research work. As an alternative scheme he suggests the erection in the county of a sanatorium with accommodation for 150 early cases and 85 advanced cases, and also the provision of three dispensaries—one at Neath or Swansea, one at Pontypridd, and a third at Bridgend. His scheme also includes the inspection and control of milk and meat supplies, and the education of the public in methods for the prevention of the spread of the disease. The cost of erecting the sanatorium is estimated at £30,000, towards which sum £24,000 will be available from the capital grant for Wales under the Insurance Act. The maintenance of patients is estimated at between £14,000 and £15,000 per annum, which is about what will be produced by the 1*s.* 3*d.* per head available for sanatorium benefit. The cost of the tuberculosis dispensaries is estimated by Dr. Morgan at about £2000 per annum, and it would appear that this, together with a capital sum of £6000, is all that would be required to be provided from sources other than State grants.

Children in Workhouses.

At the recent Conference of Poor-law Authorities held at Llandrindod a resolution was passed recommending that no children should be kept in workhouses. It appears that there are still in the workhouses of the six South Wales and the Monmouthshire Unions as many as 450 children over three years of age. The resolution of the conference was the outcome of a paper contributed by Mr. Hugh R. Williams, one of the Poor-law inspectors of the Local Government Board, who urged that under proper conditions boarding out was one of the best methods of maintaining indoor children, for in not a few cases the children became permanent members of the family into which they were boarded. In order to secure the success of the boarding-out system he said it was essential not only that the boarding-out committee of the union should be composed of men and women experienced in the work, but that it should be assisted by a paid woman visitor. Though children might be well cared for, well fed and clothed in a workhouse, the atmosphere of the institution under the most favourable conditions was not suitable for them, and their future as well as their present welfare should be considered. He thought that if the true cost of maintaining children in a workhouse could be ascertained it would be found that it was as great as that entailed in placing them in scattered homes in rural districts. Mr. Williams referred in terms of approval to the 40 distinct homes which had been established during the past 14 years by the Cardiff board of guardians. Though costly in the first instance, they had in the long run proved most economical. Of the grouped cottage homes, such as those belonging to the Pontypridd union, he did not speak so favourably, for the children did not mix with others outside the homes and the institutional system was too marked.

Gelligaer Medical Officer of Health.

The district council of Gelligaer, an urban district adjoining Merthyr Tydvil, has decided to appoint a whole-time medical officer of health, and has taken the preliminary step of giving three months' notice to the present medical officer of health, Dr. W. W. Jones, to terminate his appointment. Dr. Jones has held the position for some years and is engaged in private practice in Merthyr. Within the past 20 years Gelligaer, which is a large colliery district, has increased in population from less than 4000 to over 35,000, and in the last decade the population has more than doubled. In recent years whole-time medical officers of health have been appointed in the neighbouring districts of Aberdare, Merthyr, and the Rhondda, though in each instance the appointment was made on the death or resignation of a part-time officer.

June 11th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Treatment of Epileptics.

AN important advance in the treatment of the epileptic patients under the jurisdiction of the Glasgow parish council will be attained with the completion of the colony on the lands of East Muckroft, near Lenzie. Several months will elapse before the colony will be ready to house its inmates, but the work is steadily being pushed forward. Some two years ago a committee visited several of the more important English colonies, and in its report it pointed out that two broad principles lay at the basis of the work carried on there: (1) the extensive provision for out-door employment in country surroundings; and (2) the provision of homes, housing comparatively few inmates, to enable the epileptics to follow a peaceful *régime* and a quiet life. The committee's suggestion was that the projected accommodation should be of the colony type, and that the most economical provision would be in the form of villas to hold 50 patients each. In addition, there would be the necessary administrative centre and other requisite buildings and workshops. It is intended to have large workshops in order that the employment of the patients may be continuous in all weathers. In good weather they would work on the farm and in the gardens, but in bad weather repairs and other work could be carried out in the buildings provided. Unremitting occupation undoubtedly wards off attacks, and although epileptics are not, as a rule, good workers, it is hoped that by constant supervision the idea of the committee may be carried out. The colony in course of construction is admirably adapted for the realisation of the committee's recommendations. Two miles from a railway station it is 47 acres in extent, the land being suitable

for farming and gardening. When completed there will be six villa blocks with accommodation for 50 patients each, thus making provision for 300 patients. Besides administrative buildings and workshops, there will be a recreation hall to accommodate 300 people. The cost of the entire project is estimated at about £44,000.

Festivities in Aberdeen: Mr. Carnegie's Rectorial Address.

Mr. Andrew Carnegie, Lord Rector of the University of Aberdeen, delivered his rectorial address in the Mitchell Hall, Marischal College, on the forenoon of June 6th to a large and enthusiastic audience. Dr. Porter, president of the Students' Representative Council, introduced the Rector, and throughout the address the main body of the students listened attentively, the interruptions being confined to a few seats in the back of the hall. The scene before and after the address, however, was of a very disorderly nature, a large number of chairs being broken to pieces and much noise being created. Mr. Carnegie's speech had been previously printed and distributed to the students, the reformed spelling, of which Mr. Carnegie is an advocate, being used. During the address Mr. Carnegie remarked upon the desirability of youths having a decisive voice, if possible, in the selection of their future occupation. "Millionaires' sons," he said, "have many serious drawbacks to contend with. They will gladly help their fathers, not to acquire further wealth, but to distribute it. ..... Where wealth is left free, unfettered by primogeniture and entail, or the claims of hereditary rank, it does not remain long in one family." He insisted upon the importance of attending to trifles, of having a good opinion of one's self, and of aiming high. He advised against smoking and drinking, and remarked upon the stirring period of the world's history, in which his hearers would soon be undertaking the duties of life, and said they should rejoice to live in this century and to see the mighty strides man is taking towards the better days. In the afternoon the University sports were held, which were attended by the Lord Rector and Mrs. Carnegie and party, also Principal and Mrs. George Adam Smith. Mrs. Carnegie presented the prizes to the successful candidates. In the evening a dinner in honour of Mr. Carnegie was given by the Senatus and University Court, and Mrs. Carnegie was entertained to dinner by Lady Fleming, wife of the Rector's Assessor. Previous to the rectorial address there was held a meeting of the University Court, when the Lord Rector was welcomed. The meeting also considered the resignation of Professor Findlay and the vacancy on the Lister Committee. To this vacancy the Court appointed Lord Strathcona. On Friday forenoon, at a meeting of the Chamber of Commerce, Mr. Carnegie was enrolled as an honorary member, and was afterwards entertained to luncheon by the Lord Provost and Mrs. Maitland. In the afternoon a garden party was given by Principal and Mrs. George Adam Smith at Chanonry Lodge, and in the evening a ball was held in the Mitchell Hall by the Rector's Assessor and the students, at which the Lord Rector and party were present for some time, and where Mr. Carnegie got an enthusiastic reception and send-off by a large number of men and women students. The party left for Skibo on Saturday morning.

Provision for Consumption in Dundee.

At a meeting of the public health committee of Dundee town council, held this week, a circular letter from the Local Government Board on the subject of the treatment of consumption by local authorities was read. The letter asked what was likely to be done in Dundee in regard to sanatorium benefit, which comes into operation on July 15th, and requested the medical officer of health of the city to prepare a comprehensive report, embodying a correlated scheme for the treatment of tuberculosis, for the Local Government Board. It was remarked that Forfarshire (including Dundee) and Fifeshire would have to combine in one central district for this purpose. To put up a hospital for 35 patients, which would be the requirements for Dundee under the Act, would involve costs for administration which would be prohibitive. Dr. C. Templeman, medical officer of health, pointed out that the Act required one sanatorium and one hospital bed for every 5000 of population, and they might be sure that although the local authorities might not be inclined to take up a scheme, they would be required to do so. It was proposed that an expression of dissatisfaction should be sent to the Local Government Board that an attempt should be made to rush the matter in this way. Dr. Templeman said the difficulty was that Mr. Lloyd George insisted upon the Act coming into force on July 15th. There was not sufficient time to make the necessary arrangements. The Local Committees had not yet been appointed, and they were within six weeks of the sanatorium benefits coming into operation.

June 11th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The National Insurance Act.

A MEETING of delegates from the various counties and county boroughs of Ireland was held last Tuesday at the Mansion House, by kind permission of the Lord Mayor of Dublin, to discuss the report of the Conjoint Committee of the Irish and British Medical Associations issued some weeks ago. The Irish feeling may be gauged by the first meeting of the Dublin Local Medical Committee under the Insurance Act, which has also been held since my last communication. The following resolutions were passed:—

(1) That a minimum fee of 2*s.* 6*d.* per head be charged for the medical examination of all candidates for entrance to societies, without prejudice to existing contracts. (2) That, pending the introduction of medical benefits to Ireland, an endeavour be made to organise the profession in Dublin on the basis of 8*s.* 6*d.* capitation fee for single persons and 12*s.* for families.

The City of Dublin and the University of Dublin (Trinity College).

The corporation of Dublin has appointed the Lord Mayor and Alderman J. C. McWalter, M.D., to represent the city at the forthcoming bicentenary celebrations at Trinity College, Dublin. Moreover, the Lord Mayor has generously placed the Round Room of the Mansion House at the disposal of the Graduates' Committee for the graduates' dinner on the first night of the celebrations.

The Bicentenary Festival, Trinity College, Dublin.

The Graduates' Committee has issued a final circular asking that graduates who wish to attend the Bicentenary Festival in the first week of July should notify their intention at once. As invitation lists for the various functions are now being compiled it is necessary for the committee to get the information as soon as possible.

Ulster Medical Society.

At the annual meeting of this society held on June 6th a special resolution of condolence was passed in reference to the deaths of two of the Fellows, Dr. H. Whitaker and Mr. R. C. Parke. The following office-bearers were then elected for the session 1912–13:—President: Dr. R. W. Leslie. Vice-Presidents: Mr. A. B. Mitchell and Dr. J. Huston (Carrickfergus). Council: Dr. A. G. Robb, Mr. R. J. Johnstone, Dr. J. S. Morrow, Dr. V. Fielden, Mr. H. Stevenson, and Mr. W. McLorinan. Treasurer: Dr. J. Rusk. Librarian: Dr. W. L. Storey. Secretary: Dr. J. C. Rankin. Editorial Secretary: Mr. S. T. Irwin.

The Belfast King Edward Memorial.

At a meeting of the executive committee of this memorial held in the City Hall, Belfast, on June 10th, the Lord Mayor presiding, it was announced that a sum of £17,595 had been subscribed, and that it was hoped the final amount would reach £20,000. A special meeting of the executive is called for June 24th to appoint a building committee to inaugurate the work as soon as possible.

Sanitary Condition of Newry

In his annual report Dr. B. O'Brien, Local Government Board medical inspector, while intimating that the water-supply of Newry is sufficient, reports that it might be much improved by filtration, which recommendation Dr. E. J. McWeeney, of Dublin, and Dr. W. J. Wilson also support by analysis. The sewerage of parts of the town, according to Dr. O'Brien, requires to be improved, as in one district 21 cases of scarlet fever, 21 cases of typhoid fever, and 12 cases of diphtheria had occurred. There are also a large number of houses occupied in Newry which the inspector reports as being unfit for human habitation, and he recommends that

when the urban council has completed its present housing scheme it should take steps to close such houses.

Death of Dr. W. J. Moynahan, of Mallow.

After a busy morning with professional engagements Dr. W. J. Moynahan, of Mallow, co. Cork, was suddenly taken ill. He became unconscious, and died within a few hours from cerebral hæmorrhage. Some time ago he suffered from uræmia, but lately seemed to the general public to be in his usual good health. Dr. Moynahan graduated as M.D., M.Ch., and M.A.O. at the Royal University of Ireland in 1883. At the time of his death he was only about 50 years of age. He had been for a considerable time medical officer of the Mallow union hospital, discharging his duties with great efficiency. He was a member of the urban council. Dr. Moynahan was held in great esteem by all who knew him, and his untimely death is much deplored.

June 11th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Indications for Transfusion of Blood.

ON May 8th M. Tuffier made an interesting communication to the Société de Chirurgie on blood transfusion. Since Jan. 15th, when M. Carrel performed this operation in his service, M. Tuffier had repeated it several times. He described four cases, the first (M. Carrel's), that of a woman, 34 years of age, who suffered from internal diffuse hæmorrhage after a cholecystectomy, in which on laparotomy no bleeding point could discovered. Failure of many serum injections led to transfusion of blood, but without any good result, for the patient died during the operation. The second was a case of cachexia due to repeated hæmorrhages after a pneumonectomy. A slight improvement with some rise in arterial tension took place, but the patient died a few days later. In the third case, one of subtotal hysterectomy, notwithstanding good operative results, the depression became so marked that transfusion was practised. Considerable amelioration of the general state immediately occurred and the patient was cured. Finally, in a case of ante- and post-partum hæmorrhages, M. Tuffier attempted the operation, but the patient died before the anastomosis was effected. M. Tuffier insists on the need of examinations of the blood serum of both patient and donor before operation. He considers local anæsthesia sufficient for this intervention, but it is necessary to expose the artery for a considerable distance and, if necessary, to free it when tying some collateral branches, for it is very difficult to operate in the space that separates the forearms of the two subjects. It is also difficult to determine the quantity of blood yielded by the donor, for there is no means of estimating the arterial flow in a given time. Finally, M. Tuffier considers the indications for transfusion very limited, and counsels sticking to injections of saline infusion whenever they are adequate.

The Second French Congress of Legal Medicine.

This Congress was opened on May 20th at the Faculty of Medicine, under the presidency of M. Lacassagne, who gave an interesting address. M. Etienne Martin and M. Paul Ribierre read a paper on Traumatic Cerebral Hæmorrhages. They divided these hæmorrhages into those immediately consequent on a traumatism (including cerebral hæmorrhages of the new-born; traumatic cerebral hæmorrhages of adults and of the old; the evolution, symptoms, and diagnosis of traumatic cerebral hæmorrhages, and their medico-legal applications) and delayed traumatic cerebral hæmorrhages. In the discussion M. Claude, M. Balthazard, M. Granjux, M. Lafforgue, M. Vibert, M. Régis, M. Ribierre, M. Martin, and M. Dupré took part. M. Thoinot and M. Dervieux discussed the reform of fees of medical experts. M. Roussellier read a paper on Division of Labour amongst Experts. M. Ladame read a communication showing that in certain cases exhibitionism is due to alcoholism. The Congress unanimously passed a resolution appealing to public opinion and to the press for abatement of the increasing dangers of alcoholism, and calling on the Government authorities, legislative, executive, and judicial, to take efficacious measures to combat the increase of a form of poisoning fatal to modern society. M. Simonin spoke of the medico-legal rôle of the army medical officer. M. Thibierge, M. Balthazard, M. Stockis, M. Parisot, MM. Dervieux and Leclerq, M. Régis, M. Legludic, and M. Dufour all presented interesting communications.

The Consumption of Tobacco in France during 1910.

The revenues from the sale of tobacco for 1910, which have just been made public, have attained almost to half a milliard, an increase of 10,854,488 francs over the preceding year, and the monopoly has produced a net profit of 407,330,820 francs. The quantity of tobacco consumed as snuff and for smoking and chewing is 41,516,935 kilos, distributed as follows: cigars, 2,367,595 kilos; cigarettes, 3,250,400; smoking tobacco (*scaferlatis*), 29,959,763; chewing tobacco, 1,150,566 kilos; snuff, 4,878,608. The mean rate of individual consumption of tobacco in France in all its forms in 1910 was 1054 grammes, of which 122 was for snuff and 932 for chewing and smoking tobacco. Taking into consideration the commissions granted to retailers, it appears that the sum devoted in France to the consumption of tobacco has attained the enormous figure of 535,257,534 francs, or 13·73 francs per head, women and children included. Of this sum 12·64 francs per head reached the Treasury.

Early Rising after Major Abdominal Operations.

M. Reynés has communicated to the Academy of Medicine the statistics in the case of 50 patients who have undergone a laparotomy or a hysterectomy, and in whom an early uprising has notably shortened the period of treatment. Attention must always be paid to the contra-indications to the use of this method—fever, bad general health, and difficulty of approximating the abdominal walls.

The Influence of Albuminuria upon Hearing.

M. Paul Viollet recently reported to the Paris Société de Laryngologie, Otologie, et Rhinologie three cases in which hearing was but little improved by repeated catheterism or politzerisation. The urine being albuminous, hearing has been almost entirely restored in two cases, and entirely in a third, by regimen.

The Fight against Tuberculosis.

The Parliamentary Committee watching over the defence against tuberculosis met recently under the presidency of M. Joseph Reinach, who reported on the mission with which he was charged before the Easter vacation to the Ministers of Public Instruction, of Public Works, and of the Interior, and has made public the Ministerial letters received by him on the subject. He had called the attention of the Ministers to the measures necessary in the case of public officials attacked by tuberculosis. The Ministers informed him that the Government would bring forward before Dec. 31st a Bill applying to all the tuberculous public functionaries of all the Ministerial departments, as well as to all officials both on land and sea. A commission has been established to study the text of this project, which proposes to institute periods of long leave with treatment, while allowing the right to a pension. M. Reinach has also announced that he has requested the Academy of Medicine to study the question of the compulsory notification of tuberculosis, and states that the Academy has charged its permanent committee to study this question.

Sanitary Statistics.

M. Léon Bourgeois, Minister of Labour, has instituted for the service of general statistics of France an interministerial Commission of Sanitary Statistics, whose duty it will be to consider what improvements can be made in the mortality and morbidity statistics, and to prepare comparative international tables. The Minister thinks that the conditions of morbidity in the groups under the control of the State should first be studied. The duty of the Commission, then, will be in the first place to collate documentary data, the analysis of which will determine the frequency of the principal diseases, notably of those which, like tuberculosis, thrive especially where people come into permanent close contact. It will next seek the means to study these particulars, so as to arrive at a precise knowledge of the general morbidity and mortality. Moreover, the Commission will have to determine the methods of drawing up professional vital statistics.

June 10th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Meeting of School Medical Officers.

IN connexion with a congress of German school teachers and an exhibition of school equipment in Berlin the medical officers of schools held a meeting under the presidency of Dr. Leubuscher, of Meiningen.

Dr. Konrich, of Berlin, read a paper on the importance of the exact measurement of fatigue in children. Various methods were employed for this purpose, based partly on the phenomena of physical or bodily fatigue and partly on those of mental fatigue. The former were measured by the ergograph, which showed the strength of the hand in the beginning, middle, and end of school lessons, whereby the influence of mental application on bodily vigour might be estimated. One of the methods of measuring mental fatigue consisted in setting children to solve arithmetical problems and observing how many were satisfactorily dealt with by each child in 10 minutes, an observation of this kind being made before, during, and after the lessons. Dr. Konrich, however, was of opinion that none of these methods either gave accurate results or were able to measure minor degrees of fatigue, and that they should only be used for experiments on a considerable number of children under equal conditions. When they were employed in single cases the results showed great discrepancies. The cases might be arranged in four groups, in the first of which the ability of the children to receive instruction was constantly decreasing from the beginning to the end; in the second it remained stationary; in the third it might even increase; and in the fourth, being the most frequent, it first increased, but afterwards decreased. The results, however, were not always the same even in the same person when examined at different times. Dr. Weichhard, of Erlangen, said that he had tried to discover the cause of fatigue, and believed that he had found it in a chemical substance produced by work and termed kenotoxin. He had also succeeded in preparing an anti-kenotoxin, which, according to Mr. Lorenz, a Berlin teacher, gave good results in observations made on pupils attending continuation schools.

Dr. Pölchau, of Charlottenburg, in discussing the prevention of measles by school authorities, said the death-rate of measles was small, but the total mortality was not insignificant owing to the frequency of the disease. As schools were important sources and propagators of measles he recommended that every school in which several cases of it had occurred during a short space of time should be closed and should remain closed for at least as long as the period required for the incubation of the disease, this period being variously estimated at from four to eight days. The patients should not be allowed to attend school for at least four weeks, and their brothers and sisters who had not been attacked should similarly be required to stay away for a fortnight. Dr. Petruschky, of Dantzig, speaking on the prophylaxis of diphtheria, said that this disease had increased during the last year. The principal desideratum in prophylaxis was prompt recognition of the first cases, so that there might be no delay in resorting to serum treatment and isolation of the patients; apparently healthy children who were found to be carriers of bacilli and patients in the convalescent stage ought also to be isolated. In the discussion different views were held on the question whether infections were more likely to be communicated in the classrooms or out of school. Several speakers described the measures taken in various towns to avoid the propagation of infections within the schools. The free examination by public laboratories of exuded membranes, and also the strict exclusion of the brothers and sisters of patients from the schools, proved very useful. The question how to deal with children to all appearance in good health, but nevertheless carrying pathogenic bacilli, was much discussed, and it was stated that in New York such children were rigorously excluded from schools as long as the bacilli were found, even for several months. Dr. Kirchner, chief of the Government Medical Department, spoke in favour of this measure, which was in accordance with the existing laws. It was, however, mentioned by some medical men that the parents, as a rule, could not be convinced of the necessity of keeping an apparently healthy child away from school; they were sometimes inclined to change their medical adviser when he insisted on their doing so, and they might even call in an unqualified practitioner who did not trouble himself about bacilli. Dr. Meyer, of Berlin, commented on the great prevalence of cardiac diseases among school children, drawing attention to the fact that these conditions were often a sequel of measles. Dr. Krusius presented a report giving the results of a collective investigation made in the intermediate schools of the province of Brandenburg. He said that a good many children came to school suffering from anomalies of refraction which attracted attention only when the visual disturbance had reached a high degree, the consequence being that treatment by the use of spectacles was begun much too late. He was of opinion that errors of refraction were aggravated not so much by the work within the school as by too much reading at home, and especially by reading in a bad light. The President, in his closing address, said that there were at present 1400 school medical officers in Germany, and that their number was constantly increasing, although some local authorities declined to appoint such officers.

June 8th.

NOTES FROM SOUTH AFRICA.

(FROM OUR OWN CORRESPONDENT.)

Thirteenth South African Medical Congress.

THE most important recent event from a medical point of view has undoubtedly been the meeting of the Thirteenth South African Medical Congress in Johannesburg. The formal opening took place on April 8th, when the Mayor welcomed the members to the town. A presidential address was then delivered by Sir Kendal Franks. In the course of an eloquent speech he outlined the position of the profession in the United Kingdom to-day and contrasted it with that in South Africa to the disadvantage of the latter. He showed how by organisation the profession in Great Britain had been able to take up a solid position in relation to the Insurance Act, and how the fight was full of important lessons to the profession in South Africa. Sir Kendal Franks stated that it was the duty of the profession so to arrange its affairs as to be able similarly to defend its interests should occasion arise in South Africa. He emphasised the great set-back there had been since the Union in the public health administration of the country, and said that it was the duty of all medical men to peg away at whatever Government was in power, until a proper Department of Public Health was created for the Union. He referred in scathing terms to the Public Health Acts Amendment Act at present before Parliament, and concluded with an appeal for the profession to organise itself. Regarding the Congress from its scientific aspect, it was, comparatively speaking, a failure, for the attendance at the sessions was disappointing and the discussions by no means reached a high level. It appears, however, that the local organising committee in Johannesburg had, after careful consideration, deliberately decided on giving prominence to the social side, as its members were of the opinion that, after all, the most useful function of a congress in a huge country like South Africa, with its scattered population, would be to enable members of the medical profession to become acquainted with each other. In this respect at any rate the Congress was a great success, and a most enjoyable time was spent by the members, a large number of functions being arranged for their benefit.

Death Registration.

Notification is made in the Government *Gazette* that the international classification of causes of disease and death has been officially adopted by the Union with effect from Jan. 1st, 1912, the relative decade being Jan. 1st, 1910, to Dec. 31st, 1919.

Lay Vaccination.

A good deal of irritation has been caused recently amongst district surgeons owing to the Government employing lay vaccinators instead of utilising their services for vaccinating the inhabitants of native areas in which small-pox has broken out. An impression has got abroad that the Government, in order to save expense, proposes to employ lay vaccinators in all these areas in future. It is to be hoped that this is not true.

Leprosy in Basutoland.

At the recent gathering of chiefs and headmen forming the Basuto Pitso, or Native Council, the President mentioned that steady progress was being made with the leper settlement. Many of the leading chiefs and headmen spoke on the subject, all agreeing that in view of the spread of leprosy it was most desirable that every effort should be made to ensure success for the proposed segregation of lepers.

Cape Hospital Ordinance.

In March last a conference of delegates from the boards of the different hospitals in the Cape province was convened in Cape Town to consider the provisions of the Draft Ordinance providing for the establishment, maintenance, and management of the public hospitals and kindred charitable institutions in the province, which it is proposed should be introduced by the Government into the Provincial Council in June. The objects aimed at by the Draft Ordinance seem to be primarily to rectify the inequalities existing in the matter of State aid, and secondly to institute a number of reforms which have been long urged by the medical profession and others interested in hospital management in the province. It is proposed to do away with Government grants altogether and to fix the definite subsidy instead. In the event of the revenue of a board of management so subsidised being still insufficient to meet the expenditure, the Government—on being satisfied that the board has made reasonable endeavours to collect voluntary subscriptions and fees from paying patients and that it has so collected a reasonable amount—is to be empowered to authorise the payment of one-half of the deficit from public funds, and thereupon the balance will have to be defrayed by the local authorities of the district. It will consequently be absolutely necessary for the continuance of the hospitals for voluntary efforts to be continued. Under the scheme hospital districts are to be established corresponding with the areas of the rural or divisional councils, and each district will be under a board of management. An important provision is that which aims at the classification of patients according to their ability to pay for their maintenance. Thus it is proposed to establish three classes of hospitals, one for free patients or patients paying less than 3*s.* 6*d.* per diem, one for part-paying patients, and one for patients able to pay for the whole cost of their maintenance, the latter class of course being established by private enterprise, and not subsidised by the State. Patients paying 3*s.* 6*d.* per diem and over will be accorded the privilege of selecting their own medical attendant while in hospital, and will be liable for medical fees, but poor patients will not be held liable for such fees. Every part-paying hospital—as far as practicable—is to be open to any medical practitioner who, subject to compliance with the rules of the hospital, will be enabled to attend thereat any patients sent in by him. It is definitely laid down that for the classification of patients, under the Ordinance, a certificate from a medical practitioner will be regarded as the most reliable form of evidence. The supplying of false information in order to obtain relief at a lower rate than would otherwise be payable is to be treated as attempting to obtain money under false pretences and therefore punishable by law. The principle is established that a State-aided charity should not be permitted to compete with a nursing home established by private enterprise. Such exception as is being taken is to the financial clauses, the remainder of the Ordinance apparently meeting with general approval, particularly from the medical profession, as it embodies, as far as would seem practicable, the recommendations made by the South African Medical Conference in 1910. If the Ordinance becomes law it will at any rate establish a uniform and definite system of hospital administration throughout the Cape Province. It will remove the hospitals from political influences; it will facilitate the establishment of hospitals in areas at present not provided with hospital accommodation; it will enable hospitals to be under local control, and at the same time it will establish a considerable measure of central control by the Provincial Government, which has evidently long been needed. In addition it should prove the means of checking hospital abuse. The Administrator, Sir Frederic de Waal, recently visited all the important hospital towns in the Province with a view to ascertaining the feelings of the various boards of management in regard to the Ordinance. With the exception of the Kimberley Hospital and the Somerset Hospital, Cape Town, the Ordinance has been welcomed by hospital managers throughout the country, and there is little doubt that it will become law in due course. It has been received thankfully by the medical profession, and but little amendment has been asked for by either the Medical Council or the various branches of the British Medical Association in the Province. The Griqualand West branch, with its headquarters at Kimberley, have, however, expressed their disapproval of the measure, on the ground, apparently, that they consider it unsuitable for the Kimberley Hospital.

Public Health Bill.

The most determined opposition, irrespective of party, has been made to the Public Health Bill by medical men and municipal representatives in Parliament, and although the measure has passed the second reading its progress has been very slow during the committee stage. Indeed, it does not seem probable that the Bill will be passed unless substantially modified, and the measure has dropped back on the Order paper. It is understood that General Smuts, in view of the opposition to the Bill from both sides of the House, has practically decided not to attempt to proceed with it this session.

Report of the Miners' Phthisis Commission.

The report of the Commission appointed by the Government last session, under the provisions of the Miners' Phthisis Allowances Act of 1911, to inquire into the prevalence of miners' phthisis and pulmonary tuberculosis on mines within the Union of South Africa with a view to ascertaining the number of men who may be expected to become incapacitated annually from these diseases and the probable life of any person after having become so incapacitated, is one of the most depressing documents that have been published in South Africa for many a day. The Commission made no investigation into the incidence of miners' phthisis or tuberculosis amongst the 200,000 natives and coloured persons employed in the mines, but concentrated its attention solely on the European miner. The Commission medically examined a large representative sample of the miners actually at work. The coöperation of the mine managements and the mine employees was secured, and the latter came forward freely. Altogether 3136 underground miners were examined and their histories obtained. In addition to these 326 cases were specially examined at the Simmer and Jack Mine Hospital. The members of the Commission also acted as medical examiners to the Miners' Phthisis Board, and thus had access to the medical records of all claimants for compensation. The result of the investigation is now recorded in a report which reflects great credit on those who compiled it. Out of the underground miners examined 31·6 per cent. were classed as having miners' phthisis in one or other of its stages, and the Commission records its opinion that out of the total number of underground miners (11,400) at work on the Rand the number affected could not be far from 3600. A similar though less thorough investigation was held in 1903, which went to show that 21 per cent. of European miners were then probably affected. No class of underground worker appears to be free from serious risk of attack, and cases of the disease were found in every class. The incidence of miners' phthisis was found to be dependent on (1) the number of years spent in work underground in hard rock mines, and (2) the nature of the work upon which the miner was engaged. The results of the examination show that the order of greatest risk in the chief occupations is as follows: (*a*) machine drillers; (*b*) trammers; (*c*) hammermen; (*d*) timbermen; (*e*) other occupations. Amongst machine drillers the percentage of cases affected is 47·5 per cent., as against 20·9 per cent. for those who have never done machine drilling. The statistics show that the average life of a machine driller on the Rand is something under nine years before becoming absolutely incapacitated. The average life of an underground worker who is not employed on machine drilling appears to be about 16½ years before becoming similarly incapacitated from work. Tuberculosis amongst European miners at work on the Rand was found to exist to the extent of 3·63 per cent. amongst those unaffected with silicosis, and 10 per cent. amongst those with silicosis. The Commissioners therefore conclude that tuberculosis amongst miners at work is comparatively rare, but they show that the supervention of this disease is commonly a terminal phenomenon attacking the sufferer from advanced fibrosis. The Commissioners record

their deliberate opinion that in a stable population of 12,000 miners, where, say, 90 per cent. of all miners ultimately contract miners' phthisis, 1000 to 1200 claims annually may be made on any fund providing for their relief, and that the mean expectation of life of the claimants will only be from 1½ to 2 years.

May 14th.

Obituary.

ALDERMAN THOMAS HOUGHTON WATERS, M.D. ST. AND., F.R.C.P. LOND., M.R.C.S. ENG.

Dr. A. T. H. Waters, the *doyen* of the medical profession in Liverpool, died at his residence in Liverpool on June 8th, at the age of 86 years. He had been failing in health for the past three months. Dr. Waters qualified in 1852 as a Member of the Royal College of Surgeons of England, and served as house surgeon at the Liverpool Royal Infirmary. In 1859 he became by examination a Member of the Royal College of Physicians of London, and in the same year he gained the Fothergill gold medal for his essay on the Anatomy of the Human Lung. The success thus early attained doubtless helped to direct his studies into the channels to which they largely confined themselves in his future career—namely, tuberculosis and the diseases of the chest, particularly of the lungs. In 1861 he took the M.D. degree at St. Andrews University, and in 1867 was elected a Fellow of the Royal College of Physicians of London. He became honorary physician first to the Northern Hospital, and subsequently to the Liverpool Royal Infirmary, of which institution he was consulting physician at the time of his death. He was at one time Professor of the Principles and Practice of Medicine at the University College, Liverpool.

Dr. Waters read several interesting papers before the Royal Society on "Chloroform in Puerperal Insanity," on "Aneurysm," "The Sounds of the Heart," and on "The Structure of the Lungs." He delivered the Address in Physiology before the twenty-seventh annual meeting of the British Medical Association, entitled "Observations on the Physiology and Pathology of the Nervous System." He published in 1887 a book containing "Contributions to Clinical and Practical Medicine," while his work on "Diseases of the Chest" reached its second edition in 1873. He contributed also to Quain's "Dictionary of Medicine" the articles on "Diseases of the Bronchi" and on "Emphysema of the Lungs," and was the author of many papers in the professional journals, chiefly in relation to diseases of the chest. Dr. Waters was President of the British Medical Association when it met in Liverpool in 1883.

Dr. Richard Caton writes:—In the person of Dr. Waters, Liverpool lost on Saturday last, at the age of 86, a veteran physician, esteemed and lamented by all who had the privilege of knowing him. At all times inclined to a retired and studious life, he had of late years, from impaired health, withdrawn himself from public and professional work, but in his earlier days he rendered important services to the public and to medicine. As president, many years ago, of the British Medical Association, and an active participant in its work, he was well known to the profession throughout the country. For a lengthened period he held the post of honorary physician in succession to the Northern Hospital and the Royal Infirmary, where his services were marked by skill, thoughtfulness, and conscientious care for the welfare of his patients. As a clinical teacher he supplemented with much ability the excellent systematic lectures which he delivered as Professor of the Principles and Practice of Medicine in University College. Nor was he successful only as a consulting physician and teacher, he also engaged in valuable original research. His papers read before the Royal Society, his articles in Quain's "Dictionary of Medicine" and in many professional journals were of sterling merit, dealing chiefly with tuberculosis and lung disease. A keen advocate for higher education, he was one of the first to labour hard for the establishment of a college or university in Liverpool. As early as 1873 he was chairman of a committee established for that purpose, and he lived to see the University, for which he had hoped and striven, rise to importance and success. He was very unselfish, and for all this good work he neither sought nor received any special recognition. He enjoyed the great blessing of a singularly happy domestic life. Those who knew Dr. Waters well found his companionship highly attractive; he had refined tastes for certain departments of literature, he loved travel, and greatly enjoyed beautiful scenery. His character won unfeigned respect on account of his excellent judgment, his strict code of honour, and his natural kindliness and courtesy, while the lofty ideals he set before himself were an inspiration to those who penetrated the secrets of a strong, but modest and reserved nature. The writer has often regretted that, owing to failing health and the need for quiet retirement, Dr. Waters's influence was, of necessity, less widely operative during his later years, for he was the very type of a gentleman and of a high-principled and cultured physician of the older school, and such an example is precious.

ROBERT NIGHTINGALE HARTLEY, M.B., B.S. LOND., M.R.C.S. ENG.,

HONORARY SURGEON, LEEDS UNITED INSTITUTE FOR BLIND AND DEAF AND DUMB.

A VERY memorable life has just closed, and certain things that explain and illuminate it which have hitherto been withheld may now fitly be spoken. Robert Hartley, of Leeds, was regarded with respect and sympathy and affection by a large circle of friends, patients, and students, and the world is better because he has lived. He was born at York in 1854, and was son of the Rev. John Hartley, afterwards Principal of the Handsworth Wesleyan College, Birmingham. He was educated at Woodhouse Grove School, near Leeds, and at the Leeds School of Medicine, being also pupil of the late Dr. Thomas Dobson, of Holbeck, who lived to be the patriarch of the profession in Leeds. He studied under Lister at King's and at the Moorfields Ophthalmic Hospital under Bowman. About 1875–76 he was, when still unqualified, one of the junior resident officers in the Leeds General Infirmary, and it was at this time that the catastrophe occurred which altered the whole of his after life. When returning to the infirmary one night from a visit to a medical friend he was decoyed into a dark street, assaulted, struck on the head, and robbed of all he had about him. An attack of concussion of the brain followed. He was advised to take several months of rest from study, but did not adopt this course, but proceeded to take his degree. After this time he began to suffer from epileptic attacks. These came at long intervals and at first were not very severe, and as the condition was traumatic and he had been entirely free from any such tendency before the injury it was hoped that he might recover completely. At this time very few of his friends knew of his ailment.

Looking back on what Hartley was then and on the opportunities open to him, his friends are convinced that if his health had been established he would have had a brilliant and successful professional career. He commenced practice as a specialist in ophthalmic and general surgery, and was appointed surgeon first to the Leeds Dispensary and then to the General Infirmary, which is perhaps the summit of a Leeds student's ambition. He took his place on the staff of the medical school, and became closely associated with Mr. T. Pridgin Teale in one of the principal consulting practices in Yorkshire. His intellectual endowments were great; he was an able ophthalmic surgeon, and able to compete with the rising surgeons on the infirmary staff. He had administrative ability and the highest personal character, and he feared nothing. Unfortunately, the hope of recovery was not realised, and in 1896 he was obliged to retire from the infirmary on grounds of ill-health. This was a crisis in a professional career both painful and disastrous, and one which would have caused many a man to abandon the profession and to become soured, morose, and misanthropic. The thing that stands most to Hartley's credit is the totally different manner in which he took it, and the brave, heroic life which in much suffering and weariness he lived among his friends. The nearest of these never heard him complain of his lot. He set himself to do carefully day by day what public and private work came in his way, and especially to seek out and help any who were in trouble. His services to the School of Medicine in Leeds were very considerable. He not only held the chair of hygiene and public health for 20 years, but he took a considerable share of the administrative work during a very critical period in the development of the school and University.

One of the chief interests of his life was the education and treatment of the blind and deaf. He acted on the municipal committee of the special schools, and was honorary advisory ophthalmic and aural surgeon to the department. He visited the schools constantly, very seldom allowing two successive days to pass without a visit. He knew all the children personally, devised plans for their enjoyment, and followed up those who had left the schools, helping them in various ways, and always encouraging them to make a brave fight in spite of their disabilities. Few of his intimate friends realised all that he was doing in this way. He was also one of the governors of the Normal Institution for the Blind at Norwood, and was a most valued friend of the institution. He gave away his time and money lavishly, and refused more fees than anyone else ever did within the knowledge of the Leeds profession. He had a peculiar gift for helping men who needed help, and there are many who acknowledge the deepest obligation to him, especially amongst the medical students of his day. He served on the boards of various philanthropic bodies, which made great demands on his time and strength, but he thought no trouble too great in such work. He took special interest in medical missions, and was keen on endeavouring to secure their conduct on the best scientific lines, and he was much interested in the Students' Christian Movement. How much else he did no one can tell, for he was in respect of good deeds the most secretive of men, and was thoroughly annoyed at being detected in an act of charity.

He was never well for long and suffered from many different illnesses. His work was done in spite of this, often when he was not fit to go about. He found great recreation in good literature and in the seclusion of favourite spots in the Yorkshire dales and the Lake District and elsewhere. He had many warm friends, especially amongst those whom he had himself befriended. He was not always easy to understand, but if he was sometimes found fagged out almost to incoherency and unlike himself, with perhaps queer lapses of judgment, the explanation surely is plain. When well he was a delightful companion and conversationalist. He worked up to a few months ago, when his health failed rapidly. It seems almost too pitiful that the development of a laryngeal growth should have been added to all he suffered, but fortunately he was spared the worst possibilities of his condition, and at the last he died rather suddenly and very peacefully from heart failure on May 21st at Ilkley. He was never married, but was cared for by his sister with unstinted devotion.

The simple plan of Robert Hartley's life was to carry out the teaching of the New Testament in the work of every day. Let those who knew him say if they ever met anyone who succeeded better.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Rebenstein, of Colmar, Surgeon-General.—Dr. J. Burgtorf, principal medical councillor, of Oldenburg.—Dr. Schum, principal district surgeon, Mergentheim, Würtemberg.—Dr. Unverricht, medical privy councillor and titular professor, Magdeburg.—Dr. M. Renson of Liège, who was injured in an anarchist outrage by the Russian, Baron Sternberg, and his accomplices in 1894.—Dr. Hagbart Strom, an eminent Norwegian surgeon, professor and at one time dean of the medical faculty of the University of Christiania, aged 61. His death seems to have been accelerated by his having got up from a sick bed to operate on one of his colleagues.—Professor Marc Sée, of Paris, member of the Academy of Medicine.—Lieutenant-General Fredrik Thaulow, of the medical department of the Norwegian army and formerly director of the Royal Hospital, Christiania. His age was 72.—Dr. Ludwig Bach, professor of ophthalmology in the University of Marburg, aged 46. His published papers deal largely with the subject of the bacteriolcgy of eye disease and with that of the pupil reflex. Before going to Marburg as successor to Professor Hess he was *privat-docent* in Würzburg, where he had been assistant to von Michel.—Dr. Karl Kunn, a Vienna ophthalmologist. His published papers dealt mostly with the relations of nervous to eye diseases. He was editor of the *Wiener Klinische Rundschau*.—Dr. Hamed Waly, of Cairo, sanitary inspector of the Egyptian Government. He had the M.D. of Berlin, being the first Arab to take that degree. He was originally lecturer in Arabic in the Oriental Seminary.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. H. Riegner, of Breslau, has been recognised as *privat-docent* of Odontology; Dr. Gröber as *privat-docent* of Pharmacology; Dr. E. Martin as *privat-docent* of Midwifery and Gynæcology; and Dr. W. Meissner and Dr. A. Brückner as *privat-docenten* of Ophthalmology.—*Breslau:* Dr. O. Bondy and Dr. F. Heimann have been recognised as *privat-docenten* of Midwifery and Gynæcology; and Dr. E. Feiler as *privat-docent* of Odontology.—*Budapest:* Dr. Karl Engel has been recognised as *privat-docent* of Diseases of Nutrition and Circulation.—*Des Moines* (*Drake University*): Dr. A. S. Begg has been appointed Professor of Histology and Embryology.—*Heidelberg:* Dr. H. Braus, extraordinary professor, has been promoted to the chair of Anatomy in succession to Dr. Fürbringer, resigned.—*Prague* (*Bohemian University*).—Dr. Ch. Hynek has been recognised as *privat-docent* of Medicine.—*Rio de Janeiro:* Dr. Hermann Dürck, who was recently appointed to the chair of pathological anatomy in the University of Jena, has been appointed to the post of Director of the Pathological Institute in connexion with the Rio University.—*Rome:* Dr. Orlando Orlandini, of Sienna, has been recognised as *privat-docent* of Ophthalmology.—*Rostock:* Dr. Kühn, *privat-docent* of medicine, has been granted the title of Professor.—*San Francisco* (*Leland Stanford University*): Dr. G. B. Somers has been appointed Professor of Clinical Gynæcology.

DONATIONS AND BEQUESTS.—Among the munificent public bequests made under the will of the late Sir Julius Charles Wernher, Bart., are £250,000 to the treasurer of the Union of South Africa for the purpose of assisting in building and partly endowing a university at Groote Schuur, near Cape Town; £100,000 to the Imperial College of Science and Technology, South Kensington, together with two-twelfth parts of the residuary estate, not exceeding £50,000; £20,000 to the German Hospital, Dalston, London; £25,000 to the King Edward's Hospital Fund, London, together with one-twelfth part of the residuary estate; £2500 to the Kimberley Hospital, Kimberley, South Africa; £5000 to the London Hospital, London; £2500 to the Bute Hospital, Luton; and £1000 to the Children's Home, Luton.—By the will of the late Mr. James Brown, of Newcastle-on-Tyne, the testator left £1000 each to the Royal Victoria Infirmary, Newcastle, and the Berwick-upon-Tweed Infirmary; £400 to the Fleming Memorial Hospital for Sick Children; and £300 each to the Newcastle-upon-Tyne Maternity Hospital and Outdoor Charity for Poor Women and the Berwick Nursing Institution.—The late Mrs. Emily Cadwalladr, of Swansea, has left by will £1000 to the Swansea Hospital for the foundation of a bed, and another £1000 for the Extension Fund.

WEST LONDON HOSPITAL AND POST-GRADUATE COLLEGE.—The fourteenth annual dinner of past and present members of the West London Hospital medical staff and of the Post-Graduate College was held at the Trocadero Restaurant, London, on June 11th, under the chairmanship of Dr. E. Arthur Saunders, physician to the hospital. The chairman, before extending a welcome to those present, read a message from the Duke of Abercorn expressing his regret at being unable to attend the dinner and his wishes for its success. Dr. Saunders proposed the toast of "The Hospital and Post-Graduate College," and pointed out how closely allied were the interests of both institutions. Mr. G. F. Marshall, in replying for the hospital, drew attention to the fact that although their interests were united, the college was financially independent of the hospital and did not receive a penny from its funds. The hospital had been generously supported during the past year, but the future was most uncertain. He quoted the words of King Edward that State intervention would be bad for the hospitals and worse for the patients, and said that the West London Hospital wished to be free to work out its own salvation. Mr. Leonard Bidwell, the Dean, replied for the College as on many previous occasions, and was very warmly received. He spoke of the close connexion between the Post-Graduate College and the Services, especially the Indian Medical

Service and the West African Medical Service, now that the Naval and the Army Medical Services had their own special colleges. During the present year 120 men had entered the Post-Graduate College. The toast of "The Visitors" was proposed by Dr. Seymour Taylor and was responded to by Sir W. L. Gubbins, Director-General of the Army Medical Service, who expressed the appreciation in His Majesty's Services of the work of the college and the regret of the army at the loss of Lord Haldane as War Minister. At the close of the evening the health of the chairman was proposed by Dr. G. P. Shuter.

ST. BARTHOLOMEW'S HOSPITAL.—A large dinner in aid of the funds of St. Bartholomew's Hospital was held, by kind permission of the Lord Mayor of London, at the Mansion House on June 5th. The Lord Mayor, Sir Thomas Crosby, M.D., presided, and he was supported by Lord Sandhurst, treasurer of the hospital, the Bishop of London, Lord Aldenham, Lord Blyth, Lord Hollenden, the Hon. Sydney Holland, Sir Thomas Barlow (President of the Royal College of Physicians of London), Sir Richard Martin, Sir Alfred Cripps, Sir Henry Burdett, the Masters of several City Companies, the Sheriffs of London, and the chairman of Lloyds, together with Sir William Church, Sir Dyce Duckworth, Sir Lauder Brunton, Dr. Norman Moore, and Mr. C. B. Lockwood representing the consulting staff of St. Bartholomew's Hospital, and nearly every member of the present visiting staff. The company numbered more than 170. The Lord Mayor, in proposing the toast of "The Hospital," said that St. Bartholomew's, which for nearly eight centuries had supplied the needs of others, now needed help from the City of London. Not only had it succoured the sick poor, but it had trained and sent out medical men to all parts of the world. Lord Sandhurst, in responding, said that since he became treasurer he had investigated the finances of the hospital and had decided that it was well managed. But the purchase of the adjoining land from Christ's Hospital 12 years ago and the building and equipment of the new out-patients' and pathological blocks had involved St. Bartholomew's in a deficit of over £7000 a year. He believed that the decision to keep the hospital in the City was a wise one, and that a great hospital was no use unless it was fully equipped and maintained in the highest possible state of efficiency. They were bent upon keeping the hospitals as charities and not allowing them to become State institutions. The sum of £16,120 had been received in response to the present appeal, and annual subscriptions of £4612 for a period of three to four years were promised, bringing the total donations to about £30,000. Lord Sandhurst concluded with a tribute to Mr. E. J. Layton (honorary secretary to the Appeal Fund). The Bishop of London, in proposing the health of the visiting staff of the hospital, wished to endorse the treasurer's weighty appeal to the City. As one of the working parsons of London, who knew the poor and what the hospitals did for them, he spoke of their touching faith in "Bart's," and he declared that the whole efficiency of the hospital depended on its staff. The toast was responded to by Dr. Samuel West, senior physician, and Mr. W. Bruce Clarke, senior surgeon. Dr. West pointed out that extravagance in administration was a relative term, and that in the end best was cheapest. Mr. Bruce Clarke referred to the three great functions of a hospital—treatment, teaching, and the advancement of medicine. The toast of "The Livery Companies" was submitted by Dr. Norman Moore, who showed in an interesting historical survey how the friendship of the City to-day towards St. Bartholomew's was the modern representative of a very ancient friendship. All the City Companies had been good to the poor and many of them had been closely connected with the hospital. Mr. Horace Cullen, Master of the Mercers' Company, briefly replied. The health of the visitors was gracefully proposed by Sir Alfred Cripps, and responded to by Lord Aldenham; and a most successful evening concluded with the proposal of the Lord Mayor's health by Lord Hollenden, and with Sir Thomas Crosby's reply. It will be remembered that the special committee recently appointed to consider and advise upon the financial position of St. Bartholomew's Hospital expressed the opinion that, before any such serious step as curtailing the work of the hospital was adopted, a great effort should be made to obtain the funds necessary to carry on the work in its entirety and for the extinction of the debt to the bankers.

BRITISH MEDICAL BENEVOLENT FUND GUILD.—The matinée performance at the St. James's Theatre on June 6th in aid of this fund was a great success and realised over £700. The house was full, and the large audience enjoyed an excellent dramatic programme. Sir George Alexander, who had kindly lent his theatre and had himself performed in Act I. of *The Second Mrs. Tanqueray*, announced the result of the matinée at the close of the afternoon, and expressed the pleasure of the performers at being able to help this medical charity as some return for the great kindness of the medical profession towards their poor and themselves.

CAN A DOCTOR BE "ORDERED" AT A CERTAIN HOUR?—A Hamburg doctor was sent for to visit a child "before eight in the evening at the latest." As he was out his maidservant took the message and promised that the doctor should come. The latter was, however, detained by other cases and so did not arrive till half-past nine, and when he did the parents told him the child was asleep and could not be seen. Moreover, as the doctor had not come at the time he was "ordered" they would not pay any fee. When sued for this the defendants said that they relied on the promise given by the doctor's servant, but the court upheld the claim, saying that a doctor's time was not his own and that other cases frequently take an unexpectedly long time, so that all that could be asked was that he should come as soon as possible. This case was evidently not one of any urgency, and no intimation had been given that if he could not come by 8 o'clock someone else would be sent for.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—The annual meeting of this association will be held at the Council House, Bristol, by invitation of the Lord Mayor, on Tuesday, June 25th, at 2 P.M. A paper entitled "The Poor-law Service as Affected by the National Insurance Act" will be read by Mr. J. J. Simpson, clerk to the Bristol guardians; another by Mr. C. E. S. Flemming, of Bradford-on-Avon, entitled "Difficulties in the Practice of the Poor-law Medical Officer." Mr. C. H. W. Parkinson, medical officer of health for the Wimborne Minster urban district council, will open a discussion on the Necessity of Union among all Medical Officers holding Part-time Appointments. It is hoped that many part-time medical officers will attend, and a cordial invitation is issued to all who care to be present. The usual dinner will take place in the evening at the Royal Hotel, College Green, Bristol, at 7.30 P.M., when the Lord Mayor and Lady Mayoress, the High Sheriff of Bristol, and the Right Rev. the Lord Bishop of Bristol and Bishop of Clifton are expected to be the guests of the association. Applications for tickets (*7s. 6d.*, not including wine) should be made to Dr. W. Brown, Park View, Fishponds, Bristol. Members are invited to bring ladies with them.

GLASGOW UNIVERSITY CLUB, LONDON.—This club held its summer dinner on June 6th at the Trocadéro Restaurant, London. The chair was taken by Mr. William Lorimer, LL.D., Chancellor's Assessor on the University Court. Among those present were Lord Newlands, Principal Sir Donald MacAlister, K.C.B. (President of the General Medical Council), Sir Henry Craik, K.C.B., M.P., Sir William Hall Jones, Sir Charles Ball, Sir Christopher Nixon, Sir David McVail, Sir J. W. Moore, Sir John Collie, the Hon. Sir John McCall, Dr. Norman Walker, Dr. Andrew Wyllie, Dr. James Little, Dr. J. W. B. Hodsdon, the Right Hon. James Caldwell, Mr. James Cantlie, Dr. C. O. Hawthorne, Mr. Charles Stonham, and many members of the Faculty of Medicine at Glasgow University and other medical guests. After the loyal toasts had been honoured the chairman proposed the toast of "The University and the Club." He spoke of the value of the University in the life of the city of Glasgow and the importance of scholarship and classical learning as an instrument of thought. Dr. Lorimer also referred to the attention which his university has paid to the claims of science and medicine. By special desire the health of Professor George G. Ramsay was drunk. This was proposed in eloquent terms by Mr. A. A. Jack, and was warmly received. After Professor Ramsay had replied, the health of the chairman was submitted by Sir Donald MacAlister in a very happy style, and Dr. Lorimer acknowledged the toast. The honorary secretaries, Mr. W. Craig Henderson and Dr. David Roxburgh, are to be congratulated

on a very successful evening. The date of the dinner during the summer session of the General Medical Council made it possible for a number of members of the Council to be present.

THE annual meeting of the Caledonian Medical Society will be held at Stonehaven on Saturday, June 22nd, under the presidency of Dr. W. A. Macnaughton, medical officer of health of Kincardineshire. The annual dinner will be held the same evening. This is the second occasion on which Dr. Macnaughton, who has been the editor of the *Caledonian Medical Journal* for many years, has been elected President of the society.

ROYAL SOCIETY OF MEDICINE: SECTION OF BALNEOLOGY AND CLIMATOLOGY.—The annual provincial meeting of this section was held at Woodhall Spa on June 1st, and attracted a large attendance of members. A reception was held by the directors of the Spa Company at the Victoria Hotel at 4.30 P.M., and afterwards a tour of inspection was made of the baths establishment and the Drinking Well, and a demonstration was given of the various treatments as carried out at Woodhall Spa. In the evening a dinner was held at the Victoria Hotel, the President, Mr. G. H. Thompson (Buxton) being in the chair, and the speeches which followed proved exceptionally entertaining. After dinner a smoking concert was given in the lounge. On Sunday members and their friends attended a garden party at Petwood on the kind invitation of Captain Archibald Weigall, M.P., and Mrs. Weigall.

THE NATIONAL INSURANCE ACT.

MR. LLOYD GEORGE AND THE BRITISH MEDICAL ASSOCIATION.

THE Chancellor of the Exchequer, accompanied by Mr. Masterman, Sir Robert Morant, and certain members of the English, Scottish, and Welsh Commissions, received on June 7th a deputation of the members of the State Sickness Insurance Committee of the British Medical Association, who desired to learn the views of the Government in regard to the demands of the profession as formulated in the letter of the Association of Feb. 29th last. The official report of the meeting is as follows:—

At the request of the Chancellor, the members of the deputation elaborated and defined the demands stated in the letter in question, and in the course of the discussion the Chancellor found himself able at once to state that on several of these points the Act and the regulations to be made under it would secure the objects which the profession had in view, while on others further discussion would be necessary. On the important point of the amount of remuneration for medical services under the Act, the Chancellor pointed out that the Government had acted on the information available to them in framing their original estimates, and that, when challenging that estimate as inadequate, and demanding a rate of remuneration of "8*s.* 6*d.* as a minimum capitation fee not including extras and medicines," the representatives of the profession might reasonably be expected by the Government to furnish the facts and figures on which they based this higher demand. It was finally arranged that the deputation should meet the Chancellor again on June 12th and then lay before him the facts in their possession in support of their claims.

The Chancellor met the further deputation on Wednesday last, but no official statement has been made as to the outcome.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Select Committee on Patent Medicines.

THE evidence of two witnesses—Mr. H. B. NEALE, an officer of the Customs of the Commonwealth of Australia, and Mr. GUY STEPHENSON, the Assistant Director of Public Prosecutions—was taken by the Select Committee of the House of Commons on Patent Medicines on Thursday, June 6th.

Mr. NEALE explained to the Committee that under the law of the Commonwealth patent medicines imported into Australia must be accompanied by a statement as to their nature and purposes.

The CHAIRMAN (Sir H. NORMAN): Does the Commonwealth law require the formulæ for patent medicines to be declared on the package?

Mr. NEALE: No, not always. If the medicine contains certain specified drugs this must be mentioned, and the quantity or proportion of the drugs must be specified. If it does not contain the specified drugs, we do not require this to be mentioned. If there was a false trade description of drugs, the Controller-General of the Customs was assisted in the technical question by the Commonwealth Director of Quarantine, a medical man of high standing. The importation into Australia of indecent and obscene literature, preventives of conception, medical or mechanical, and all literature connected therewith was forbidden. The Commonwealth customs would not admit certain medicines except it was stated on the label advising the man who took them to seek medical advice if he did not get better. Witness could not speak officially as to the legislation in the matter of patent medicines in the individual States of the Commonwealth.

Mr. STEPHENSON said that one of the great obstacles in instituting prosecutions in connexion with the sale of proprietary drugs or appliances which were objectionable was the difficulty of obtaining evidence. Persons who had answered advertisements for so-called remedies for the cure of certain complaints and diseases were naturally unwilling to come forward and give evidence in a court of law in regard to them. It was likewise very difficult to induce persons to give evidence in proceedings for obtaining money by false pretences against persons who sold drugs which would not be effective for an illegal purpose, although it was suggested that they were so effective.

The Committee had another meeting on Tuesday, June 11th. Sir HENRY NORMAN was again in the chair

Mr. GUY STEPHENSON, the Assistant Director of Public Prosecutions, resumed his evidence. He said that the law was at present gravely inadequate to deal with the recognised evils arising from the sale of patent medicines of the fraudulent and objectionable kind. The method of getting a conviction against the vendors of these articles was a prosecution either for obtaining or for attempting to obtain money on false pretences, but in actual practice the difficulty of getting full and requisite evidence was extremely great. During the present year the Director of Public Prosecutions had instituted three prosecutions under the Post Office Act, 1908, against persons for having sent literature of an objectionable kind through the post. The Director of Public Prosecutions instituted prosecutions against persons who procured abortion. In almost every case the drugs which were given to be administered to procure abortion were ineffective for that purpose, and in very few cases was the injury caused by the drugs. Usually it was caused by the use of an instrument.

Mr. GLYN-JONES: In regard to a prosecution for fraud the courts draw a distinction between fraudulent representation and the laudation of goods.

Mr. STEPHENSON: Mere puffing is not a false pretence. To obtain money by false pretences the prosecutor must show that the purchaser believed in the truth of the representation made by the accused, that that representation was a representation of an existing fact and not a promise of anything future, that the representation was falsely made to the knowledge of the person making it and it was made with intent to defraud. The last element would probably be inferred if the other elements were present. It has been held by the judges that a mere puffing and exaggerated description of the value of goods is not sufficient to obtain a conviction.

Mr. GLYN-JONES: In cases of fraud does the Public Prosecutor differentiate between medicine and other commodities?

Mr. STEPHENSON: Only to the extent where the health of the public is concerned. I mean if a medicine was being sold which could be proved to be doing very serious harm to a number of persons, and application was made to him to take proceedings, or if it was a medicine which came within the criminal law, such as medicine for procuring abortion, then he would take the matter up. The mere fact that the description of a medicine or drug was untrue or even if it was fraudulent, unless he had evidence before him to show his intervention was required, would not make it a matter for him to undertake.

Mr. GLYN-JONES: Suppose that the article was innocuous.

Mr. STEPHENSON: It would not be a matter for the Director of Public Prosecutions.

Mr. GLYN-JONES said that certain advertisements when exhibited in public places were prohibited, but he understood that they were not prohibited when exhibited in shop windows.

Mr. STEPHENSON replied that under the Indecent Advertisements Act the affixing to a gate or a tree or a building of any printed matter of an indecent or obscene nature was made an offence punishable summarily. The Act was designed to prevent the affixing of advertisements with regard to remedies for venereal diseases and so forth.

Mr. GLYN-JONES: Is it the case that successful proceedings have been taken against the exhibition of such articles as gonorrhœa bags and so forth?

Mr. STEPHENSON: I do not know. That would be a matter for the metropolitan police.

Mr. GLYN-JONES: Is there any difficulty in proceedings in connexion with abortion and attempts to procure abortion by drugs owing to the fact that some of the symptoms which might suggest pregnancy are not due to pregnancy, but might be a legitimate case for the use of the drugs?

Mr. STEPHENSON: Yes.

Mr. GLYN-JONES: There are certain drugs used for correcting certain functional diseases legitimately.

Mr. STEPHENSON: Yes.

Mr. GLYN-JONES: Is the difficulty due to the fact that it is difficult to ascertain when they are used legitimately and when not?

Mr. STEPHENSON: That is an element. In further cross-examination he said that it was no offence to publish in the newspaper an advertisement for the cure of gonorrhœa unless there was some element of indecency in the advertisement. In prosecutions there had always been some element of indecency.

In answer to Mr. NEWTON he said that to a certain extent objectionable advertisements had diminished since a prosecution had taken place. Some of the advertised drugs of an objectionable nature had been tested and found wholly ineffective for the illegal purpose for which they were taken. In order to secure a conviction for obtaining money by false pretences, the woman who had taken the drug must go into the witness-box and say, "I took this drug for this illegal purpose." In the same way it was one of the great difficulties in the way of prosecution to get witnesses to come forward and say that they had bought drugs to cure themselves of certain diseases.

Mr. H. LAWSON: Do you think that the publication of the formula would have an effect in the prevention of fraud?

Mr. STEPHENSON: Yes, supposing you can make the person selling the mixture liable quite apart from the question of knowledge.

Mr. CAWLEY: I understand that there is a difficulty in prosecuting because the manufacturer does not actually sell direct to the user of the patent medicine.

Mr. STEPHENSON: That is so. Very often it is not known who the manufacturer is.

Mr. CAWLEY: What alteration in the law can you suggest in order to secure convictions in the cases of these advertisements where there is obvious fraud and where there is now a difficulty of securing a conviction?

Mr. STEPHENSON: I see very great difficulties in making any suggestions in that respect.

THE CHAIRMAN: That is very discouraging.

Dr. CHAPPLE: Suppose that you have before you some case of an alleged certain cure for a disease—say, cancer. You tell us that the prosecution would not be successful?

Mr. STEPHENSON: If a prosecution was to be successful you would have to call evidence.

Dr. CHAPPLE: Suppose that you have some cure for consumption put forward, would it not be sufficient to say that medical evidence should be called to say that the preparation could not cure consumption?

Mr. STEPHENSON: Not as the law at present stands. I think it would be a very good thing if the law could be reformed.

The CHAIRMAN: Is it the case that in order to have a successful prosecution for false pretences in the case of a drug you would have first to prove that the article will not have the effect promised?

Mr. STEPHENSON: Yes.

The CHAIRMAN: Then you have to prove that the vendor knew this?

Mr. STEPHENSON: Yes.

The CHAIRMAN: Then you have to prove that the purchaser believed it?

Mr. STEPHENSON: Yes.

The CHAIRMAN: In the fourth place the purchaser must voluntarily come forward to give evidence?

Mr. STEPHENSON: Yes.

The CHAIRMAN: And the Director of Public Prosecutions is unwilling to advertise the medicine, and being unwilling to act, except when he is certain as to the result of the prosecution, may require a number of witnesses to corroborate?

Mr. STEPHENSON: Yes.

The CHAIRMAN: Is it not a surprise that there are any prosecutions at all? Why should not a lying advertisement and a truthful analysis be sufficient evidence?

Mr. STEPHENSON: That would not amount to obtaining money by false pretences. I doubt whether it would be sufficient for the charge of attempting to obtain money by false pretences.

The CHAIRMAN: The law is practically non-existent with regard to these advertisements, broadly speaking.

Mr. STEPHENSON: I would hardly like to say that. The difficulty of prosecuting successfully any false statement with regard to the powers of a medicine is almost insuperable.

The examination of Mr. Stephenson occupied the whole sitting of the Committee.

Mental Deficiency Bill.

On Wednesday, June 11th, Mr. MCKENNA, the Home Secretary, at a rather late period of the sitting in the House of Commons, moved the second reading of the Mental Deficiency Bill. The terms of this measure have been described in THE LANCET recently. The Home Secretary in recommending his measure to the House emphasised the fact that it would gather into homes for the feeble-minded persons who were now wandering about incapable of taking care of themselves and persons who were now confined in prisons, asylums, and workhouses. The discussion on the motion for the second reading was adjourned.

HOUSE OF COMMONS.

WEDNESDAY, JUNE 5TH.

The Local Government Board and Public Health.

On the debate in Committee of Supply on the Local Government vote, various questions having relation to the administration of public health were raised.

Mr. BURNS (President of the Local Government Board), in the course of his reply, said that he and the President of the Board of Agriculture were hopeful that a Milk Bill would be passed this year. He further hoped that in view of the negotiations which had taken place the Bill, which would have taken a very long time to pass in 1909, would get through with much less trouble. He was asked about the contemplated milk and cream regulations. He had recently received a deputation on the subject, and he dealt with the question of fat, whether it should be 40 or 30 per cent. If a compromise were arrived at between the two figures much harm would not be done. As to the question of labels, whether the term "preserved" or "boracised" or some other description should be used, it had been gone into very fully, and before the final decision was given the Local Government Board hoped to arrive at a conclusion satisfactory to the various interests affected. There was now no reason for further delay before issuing the order. The honourable Member for Hoxton (Dr. Addison) had referred to the milk-supplies of London. The honourable gentleman seemed to assume that because no Milk Bill was passed in 1909, therefore local authorities were not doing what he imagined a Milk Bill alone would enable them to do. However, there was a great deal which the local authorities could do under their existing powers, because many of them had got wide powers in the London area and under special Acts for the sale and consumption of milk. If local authorities only wanted to show what good administration under existing limited powers could do they had only to take what the various borough councils and the London County Council combined had done. There were only 9000 milk shops in London, and last year the London County Council, the borough councils, and the Local Government Board combined had struck off 1141 milk shops because of the unsuitability of the premises for milk and dairy purposes. If that were done universally by all the local authorities considerable advance would be made even under the existing limited power. As to the duties of the Local Government Board in connexion with the Insurance Act, he should tell the Committee that even before it reached the Statute Book he instructed his officers to bring all the weight and influence at the disposal of the Department to see that the public health, and above all the tuberculosis and sanatorium clauses were enforced in full measure. The honourable Member for Plymouth (Mr. Astor) knew that from the very earliest stages the Local Government Board anticipated, and to the fullest extent complied with, every condition in the Insurance Act in ascertaining from local authorities the number of beds which they had now and the number that would be wanted for persons suffering from tuberculosis. They had placed all the information at the disposal of the Treasury and of the Chancellor of the Exchequer and of the Insurance Commissioners, and of the Special Committee on Tuberculosis over which the honourable Member (Mr. Astor) so worthily presided. So far as the Local Government Board could cooperate with the provisional committees, it would only be too pleased to help them as it had helped the Insurance Commissioners, the Treasury, and the Chancellor of the Exchequer on the public health aspect of the Insurance Act. In regard to the feeble-minded, he trusted that the Mental Deficiency Bill would deal with the problem in a broad and statesmanlike way. An honourable Member had noted with regret that the pauper lunatics in the last five years had increased from 111,000 to 121,000. His own view was that the actual increase in lunacy was not commensurate with the statistical increase of lunatics, imbeciles, idiots, and feeble-minded persons. Twenty years ago many of those persons were allowed freedom, but they were now gathered into institutions. The result was that the statistics indicated a larger increase of lunatics than the facts warranted. Honourable Members said that there was a tremendous increase in lunacy. In his opinion this was not the fact. There was reason to hope for a diminution in lunacy. He found that the drink bill of the nation had dropped 25 per cent. in 10 years. He believed if that tendency continued for another 10 or 15 years, lunacy would not only not increase, but would show a substantial diminution. From what he had seen and learnt he believed that lunacy, although lunatics were more in numbers, was less violent than it used to be, and there was no comparison in the treatment and the environment of the lunatic, imbecile, and feeble-minded person to-day and 10, 20, or 40 years ago. As to housing, he five weeks ago sent one of the special inspectors of the Local Government Board to Norfolk to see what the local authorities were doing. He told the inspector to enforce on them the absolute necessity of doing all within their existing powers. The inspector reported on the condition of things there. It was not a mere rectification of sanitary defects. He inspected 19 districts in which pressure had been brought to bear on the local authorities to exercise their powers. Criticism had been passed on the Local Government Board for the administration of the Housing Acts. However, it was the case that with accelerated pressure from the Board the local authorities were increasingly responding to the call of the Housing and Town Planning Act and doing their work. Considering the comparatively short time in which the Act had been in operation, on the whole reasonable progress had been made. As to the question of vaccination officers whose remuneration had been diminished owing to the exemptions from vaccination, complaints had been made only by 61 out of a total of 1420 officers. Forty-three had been compensated by guardians. In eight cases no compensation was needed, and ten cases were under consideration.

THURSDAY, JUNE 6TH.

Sanitary Regulations in the Malay States.

Mr. MCCALLUM SCOTT asked the Secretary of State for the Colonies whether he was aware that in the annual report of the Selangor Health Department, in the Federated Malay States, Dr. Gerrard stated that an unprecedented amount of obstruction and passive resistance had been shown by certain members of the planting community towards the sanitary regulations laid down in the Estate Labourers Enactment, that gross cases of insanitation had been discovered, and that the majority of the visiting medical practitioners, except in a few cases, had not inspected the dwellings of the labourers or given any advice to managers as to the ordinary sanitation of these places; and whether the Government proposed to take any action.—Mr. L. HARCOURT replied: I have

seen in the press an extract from the report to the effect quoted in the question. I have no doubt that the local Government will take any steps which they think desirable.

The Grants for the Treatment of Tuberculosis.

Mr. SANDERS asked the Chancellor of the Exchequer whether his attention had been called to the recommendation made by the Departmental Committee on Tuberculosis that any scheme dealing with that problem should provide institutions and methods available for the whole community; whether any portion of the £1,500,000 set apart last year for the treatment of tuberculosis would be available for the treatment of non-insured persons; whether capital grants to be made in accordance with the report of the Departmental Committee would be available for beds to be occupied by non-insured persons; and, if not, was the cost of providing the necessary accommodation for non-insured persons where charitable institutions did not exist for the treatment of tuberculosis to be made entirely out of the county rates.—Mr. LLOYD GEORGE wrote in reply: The answer to the first three parts of the question is in the affirmative. The fourth does not therefore arise.

Medical Care of School Children.

During the debate in Committee of Supply on the Education vote,

Mr. J. A. PEASE (President of the Board of Education) alluded to medical work in connexion with public elementary schools. The number of meals given to school children in the country throughout the past year was 16,872,000. In London 9,138,000 meals were given to the children attending the schools. The cost of the food and the provision of meals was £153,000, and of that sum only £1370 was recovered from parents. Sir George Newman's report had been widely read. The result of the medical inspection of the school children was that it proved that 10 per cent. of the children in attendance at public elementary schools were defective in eyesight; 4 per cent. were defective in hearing; about 7 per cent. suffered from adenoids or enlarged tonsils; 40 per cent. were suffering from decayed teeth; 35 per cent. were verminous; 1 per cent. were tuberculous; and between 1 and 2 per cent. had heart disease. He was glad to say that local education authorities had already been doing a great deal to try to deal with the ailments of these children. Seventy-eight authorities had established nurses. Seventy-two authorities were practically giving free spectacles to the children who required them. Children were treated by 22 authorities in their hospitals, and 48 authorities had established clinics. He had secured from the Treasury a grant of £60,000 to help and encourage the local education authorities in treating these ailments, and he believed that that amount would have to be extended in the years to come. The House had so far been kindly disposed in not criticising him too much in regard to the regulations which he had circulated in connexion with the distribution of this £60,000. It was the first year in which the Board of Education had had at its disposal a grant to help the local authorities in treating children for their ailments. The Board hoped to be able to pay £1 for every £1 spent by the local authorities in connexion with the work done, but during the first year it desired a certain amount of latitude to be given. He mentioned that the Government was at the present time considering how it could encourage local education authorities to build special schools in order to look after the educable mentally defective children.

Sir WILLIAM ANSON, speaking of the arrangements which local education authorities might make for children who were found to require special medical care, hoped that the Board of Education would not in the present state of experience press upon local education authorities one scheme of arrangements rather than another. He thought that it was in the report of last year that the medical officer referred to what was being done by the local education authority for London which, he believed, endeavoured to work with the hospitals and other voluntary agencies through which it could obtain by arrangement the necessary medical service and carry out the work of medical treatment. He thought the report of the medical officer of the Board was to the effect that the task which lay before that authority was one of unexampled difficulty, and that at that time it had not had a fair trial. He thought that it would be very unfortunate if any cut-and-dry method of dealing with this question were insisted on by the Board, and if any local authority which was honestly endeavouring to discharge the heavy responsibility laid upon it by the Act were not allowed to try more than one experiment in the matter with the view of obtaining the best and most economical mode of dealing with this important question.

Mr. GOLDSTONE expressed the opinion that medical inspection without medical treatment was of no avail. He thought that the grant of £60,000 was very small indeed for the purposes of medical treatment.

MONDAY, JUNE 10TH.

An Antivivisection Exhibition.

Sir PHILIP MAGNUS asked the Secretary of State for the Home Department whether his attention had been called to a shop in Piccadilly and to one recently opened in Oxford street, in which were exhibited stuffed animals tied down for an imaginary operation and suggesting that animals were tortured by vivisection; and whether, having regard to the congestion of passenger traffic due to the nature of such exhibits and the bad effects thereby produced on sensitive and uninformed people, he would take steps to prevent the public display of such shows.—Mr. MCKENNA said in reply: My attention has been drawn to these shops, but the police report that they have not caused any congestion of traffic. I regret that I have no power to prevent such displays. The persons responsible for them can only damage their cause by adopting methods which are calculated to spread the false belief that in this country cutting operations are allowed to be performed on animals without anæsthetics. The recent report of the Royal Commission condemned this method of propaganda.

The Insurance Act and Medical Supplies.

Mr. FREDERICK WHYTE asked the Secretary to the Treasury whether any authorised public statement had been made regarding the position of chemists as purveyors of medical supplies under the National Insurance Act; whether a chemist who was not a member of any local association of pharmacists could have his name placed upon the panel of recognised chemists for the purposes of the Act; and, if not, whether the authorities responsible for the administration of the National Insurance Act would make arrangements only through such associations.—Mr. MASTERMAN replied: The answer to the first part of the question is in the negative, and to the second part in the affirmative The third does not therefore arise.

Public Health in Malta.

Mr. POINTER asked the Secretary of State for the Colonies whether, with a view to the prevention of the introduction and spread of infectious diseases in the island of Malta, he had made representations to the sanitary authorities of the island on the advisability of taking the strictest measures against importations from Tripoli and Italy, and if so, what measures he had recommended.—Mr. L. HARCOURT answered: The Government of Malta are fully alive to the danger of the introduction of diseases into the island from foreign countries, and I have found no necessity to urge upon them the adoption of stricter methods of quarantine. Their existing rules and practice are in fact exceptionally rigorous.

Medical Women in India.

Mr. JOYNSON-HICKS asked the Under Secretary of State for India whether there were any women doctors in the Government medical service of India, and if so, how many; and whether he was aware that the great mass of the women of India decline, for reasons which appear to them sufficient, to be treated by a doctor other than one of their own sex.—Mr. MONTAGU answered: The information asked for in the first part of the question is not yet available, but the Government of India have been asked for a return. The statement made in the second part of the question is correct as regards women observing the system of "purdah" or seclusion, but it is doubtful whether they represent the great mass of the female population. More than five and a half millions of adult women are annually treated in the hospitals and dispensaries of British India, few of which are under exclusive female supervision.

TUESDAY, JUNE 11TH.

The Sale of Milk.

Mr. WILKIE asked the President of the Local Government Board whether he was aware of the state of the law with regard to the defence of warranty in the case of prosecutions, under the Sale of Food and Drugs Acts, of vendors of milk; did he propose to initiate legislation for the better protection of the public in this respect; and, if so, when might the introduction of such legislation be expected.—Mr. BURNS replied: The answer to the first part of the question is in the affirmative. I am considering the question of legislation on the subject and hope to lay proposals before Parliament at an early date.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, London.

Syphilology and Venereal Disease. By C. F. Marshall, M.D., M.Sc., F.R.C.S., Surgeon to the British Skin Hospital. Second edition. Price 10*s.* 6*d.* net.

Index of Practical Nursing. By J. Basil Cook, M.D., D.P.H., Senior Assistant Medical Officer, Kensington Infirmary. Price 2*s.* net.

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.

The Dental Directory, 1912. Compiled from Official Sources. Price 2*s.* 6*d.* net.

COLLEGE OF PHYSICIANS, Columbia University, N.Y., U.S.A.

Studies from the Department of Pathology of the College of Physicians and Surgeons, Columbia University, N.Y. Vol. XII. For the Collegiate Years 1909–1911. Reprints. Price not stated.

DULAU AND CO., LIMITED, 37, Soho-square, London, W.

University of London. Francis Galton Laboratory for National Eugenics. Eugenics Laboratory Memoirs. XVI. Treasury of Human Inheritance. Name and Subject Indices to Volume I. By Julia Bell, M.A. With Frontispiece Portraits of Sir Francis Galton and Ancestry. Price 3*s.* net.

GANES, LIMITED, 85, Shaftesbury-avenue, London, W.

The Cinematograph and Natural Science. The Achievements and Possibilities of Cinematography as an Aid to Scientific Research. By Leonard Donaldson. Price 2*s.* 6*d.* net.

HINDE, ALFRED, Printer, Dudley-street and Chapel Ash, Wolverhampton. SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.

Preservation of the Teeth. With Charts to Record their Past and Future Treatment. By Eustace Lees. Price 1*s.* net.

HODGE, WILLIAM AND COMPANY, Edinburgh and London.

The Annesley Case. Edited by Andrew Lang. Price 5*s.* net.

JOURNAL OF NERVOUS AND MENTAL DISEASE PUBLISHING COMPANY, 64, West Fifty-sixth-street, New York.

Nervous and Mental Disease Monograph Series No. 11. The Theory of Schizophrenic Negativism. By Professor Dr. E. Bleuler, Professor of Psychiatry, University of Zürich, Director of Burghölzli Asylum. Translated by William A. White, M.D., Superintendent of the Government Hospital for the Insane Washington, D.C. Price $0.60.

LEWIS, H. K., London.

Seasickness and Health. A Manual for Travellers. By Joseph Byrne, A.M., M.D., LL.B., Author of "Physiology of the Semicircular Canals and their Relation to Seasickness," &c. Price 4*s.* net.

LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.

The Energy System of Matter. A Deduction from Terrestrial Energy Phenomena. By James Weir. Price 6*s.* net.

MACMILLAN AND CO., LIMITED, London.

Cerebral Decompression in Ordinary Practice. An Address. By Charles A. Ballance, M.V.O., M.S., F.R.C.S., Surgeon to St. Thomas's Hospital, &c. Price 2*s.* 6*d.* net.

METHUEN AND CO., LIMITED, London.

A Handbook of Nursing. By M. N. Oxford of Guy's Hospital. Sixth edition. Price 3*s.* 6*d.* net.

MILLS AND BOON, LIMITED, 49, Rupert-street, London, W.

Problems in Practical Chemistry for Advanced Students. By G. F. Hood, M.A. Oxon., B.Sc. Lond., Chemistry Master, Nottingham High School. Price 5s. net.

NISBET, JAMES, AND CO., LIMITED, 22, Berners-street, London, W.

The Tuberculin Treatment of Consumption. By H. Vaughan Barber, M.A., L.R.C.P. Price 6d. net.

REBMAN, LIMITED, London.

Surgical Operations. A Handbook for Students and Practitioners. By Professor Friedrich Pels-Leusden, Chief Surgeon to the University Surgical Clinic and Chief of the University Surgical Polyclinic in the Royal Charity Hospital, Berlin. Only authorised English translation. By Faxton E. Gardner, M.D., New York. Price 30s. net.

Textbook of Ophthalmology in the Form of Clinical Lectures. By Dr. Paul Roemer, Professor of Ophthalmology at Greifswald. Translated by Dr. Matthias Lanckton Foster, Member of the American Ophthalmological Society; Member of the American Academy of Ophthalmology and Oto-Laryngology. Volume I. Price 10s. 6d. net.

SAUNDERS (W. B.) COMPANY, London and Philadelphia.

Tumors of the Jaws. By Charles Locke Scudder, M.D., Surgeon to the Massachusetts General Hospital, Lecturer on Surgery in the Harvard Medical School. Price, cloth, 25s. net.

Modern Methods in Nursing. By Georgiana J. Sanders, formerly Assistant Matron at Addenbrooke's Hospital, Cambridge, England; formerly Superintendent of Nurses at the Polyclinic Hospital, Philadelphia, and at the Massachusetts General Hospital, Boston. Price, cloth, 12s. net.

Diseases of the Genito-Urinary Organs and the Kidney. By Robert Holmes Greene, A.M., M.D., Professor of Genito-Urinary Surgery, Medical Department of Fordham University, and Harlow Brooks, M.D., Assistant Professor of Clinical Medicine, University and Bellevue Hospital Medical School. Third edition, revised and enlarged. Price, cloth, 21s. net.

A Cyclopedia of American Medical Biography, comprising the Lives of Eminent Deceased Physicians and Surgeons. From 1610 to 1910. By Howard A. Kelly, M.D. Two volumes. Price, cloth, 42s. net.

SCIENTIFIC PRESS, LIMITED, London.

Medical Homes for Private Patients, 1912. A Classified Directory with Lists of Medical Consultants. Price 6d. net.

THACKER, SPINK, AND CO., Calcutta and Simla. THACKER, W., AND CO., 2, Creed-lane, London, E.C.

The March: its Mechanism, Effects, and Hygiene. By Lieut.-Col. Patrick Hehir, I.M.S., M.D., F.R.C.P.E., F.R.C.S.E., D.P.H. Camb., D.T.M. (Liv. Univ.). Offg. Principal Medical Officer, Burma Division. Price 3s. 6d. net.

THIEME, GEORG, Leipzig.

Chemische Methodik für Aerzte. Von Prof. Carl. Oppenheimer, Dr. phil. et med. in Berlin. Zweite Auflage. Neubearbeitet von Dr. W. Glikin, Berlin-Pankow. Price M. 2.40.

VIGOT FRÈRES, Paris.

Les Velus. Contributions a l'Étude des Variations par Excès du Système Pileux, de l'Homme et de leur Signification au point de vue de l'Anthropologie zoologique. Par M. le Prof. A.-F. Le Double, de Tours, Associé National de l'Académie de Médecine, Lauréat de l'Institut (Académie des Sciences), Membre Correspondant de l'École d'Anthropologie de Paris, et M. le Dr. François Houssay, de Pont-Levoy. Price Fr. 15.

Traité des Variations de la Colonne Vertébrale de l'Homme et de leur Signification au point de vue de l'Anthropologie zoologique. Par M. le Prof. A.-F. Le Double, de Tours, Associé National de l'Académie de Médecine, Lauréat de l'Institut (Académie des Sciences), Ancien Vice-Président de l'Association des Anatomistes de France et des Pays de Langue Française. Price Fr. 25.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol. SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.

Golden Rules of Skin Practice. By David Walsh, M.D. Edin., Senior Physician, Western Skin Hospital, London, W. "Golden Rules" Series. No. VIII. Fourth edition. Revised and enlarged. Price 1s.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALEXANDER, W. H., M.B., M.S. Glasg., has been reappointed Medical Officer for the Luddington District of the Goole Board of Guardians.

BLAMEY, J., M.R.C.S., L.S.A., has been reappointed Medical Officer of Health for Perran-ar-worthal by the Falmouth Board of Guardians.

COWBURN, A. DOUGLAS, M.R.C.S., L.R.C.P. Lond., D.P.H., has been appointed Deputy Coroner for the Western District of the County of London.

ETHERINGTON-SMITH, RAYMOND B., M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed Honorary Consulting Surgeon to the Royal Hospital, Richmond.

EVANS, D. B., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician at the Royal Hospital for Diseases of the Chest.

FERGUSON, R. S., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Calne District of the county of Wilt.

FRASER, KENNETH, M.B., B.S. Edin., has been appointed Assistant Medical Officer to the Cumberland County Council.

HILEY, R. MELVILLE, M.R.C.S., L.R.C.P. Lond., has been reappointed Resident Medical Officer at the Royal Hospital for Diseases of the Chest.

JEFFERISS, FREDERICK B., F.R.C.S. Edin., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to the Chatham Post Office, including Luton.

LINNELL, J. E., M.B., B.C. Cantab., D.P.H. Lond., has been appointed Medical Officer of Health to the Erpingham Rural District Council.

MILES, WILLIAM ERNEST, F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Consulting Surgeon to the Royal Hospital, Richmond.

SMITH, ERIC BELLINGHAM, M.D. Lond., M.R.C.P. Lond., has been appointed Physician to Out-patients at the Great Northern Central Hospital.

STEVENS, B. C., M.D. Durh., has been appointed Police Surgeon to the Borough of Hartlepool.

WALKER, C. F., M.D. Lond. (State Med.), B.S. Lond., D.P.H. Manch., has been appointed Medical Superintendent of the Westmorland Consumption Sanatorium.

YOUNG, J., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Lasswade District of the county of Edinburgh.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD BOROUGH HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with board and laundry.

BIRMINGHAM UNIVERSITY.—Lecturer in Physiology. Salary £200 per annum.

BOOTLE BOROUGH HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with residence, board, and laundry.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—Resident Medical Officer, unmarried. Salary £160 per annum, with rooms, coals, gas, and attendance.

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—Assistant House Surgeon, unmarried. Salary £80 per annum, with apartments, board, and laundry.

BRISTOL GENERAL HOSPITAL.—House Physician for six months. Salary £80 per annum, with board, residence, &c.

BRIXTON DISPENSARY, Water-lane, S.W.—Resident Medical Officer, unmarried. Salary £150 per annum, with apartments, attendance, &c.

CANCER HOSPITAL, Fulham-road, S.W.—House Surgeon for six months. Salary £70 per annum.

CARDIFF, KING EDWARD VII.'s HOSPITAL.—House Surgeon for six months. Salary £30, with board, residence, and laundry.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road.—Registrar. Also Clinical Assistants.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £80 per annum, with board, apartments, and laundry.

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry.—Senior House Surgeon. Salary £120 per annum, with rooms, board, washing, and attendance.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £55 per annum, with board and washing.

EASTERN DISPENSARY, Leman-street, E.—Resident Medical Officer. Salary £120 per annum, with residence and attendance.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, London, S.E.—House Physician and House Surgeon. Salary at rate of £75 per annum respectively, with board, residence, and washing. Also Clinical Assistants.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £30 per annum, with board, apartments, and washing.

GLOUCESTER, GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

HARTLEPOOLS HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and lodging.

HUDDERSFIELD ROYAL INFIRMARY.—Assistant House Surgeon. Salary £30 per annum, with board, residence, and laundry.

INFANTS HOSPITAL, Vincent-square, Westminster.—Assistant Physician.

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL.—House Physician. Salary £85 per annum, with board, residence, and laundry.

LEEDS GENERAL INFIRMARY.—House Physician for six months. Also Resident Obstetric Officer for six months. Salary £25. Board, residence, and washing provided in each case. Also Resident Medical Officer at Ida and Robert Arthington Hospitals for six months. Salary £30, with board, residence, and washing.

LEICESTER INFIRMARY.—Assistant House Physician for six months. Salary at rate of £80 per annum, with board, apartments, and washing.

LEICESTER ISOLATION HOSPITAL.—Resident Medical Officer. Salary £150 per annum, with board and residence.

LINCOLN MENTAL HOSPITAL, The Lawn, Lincoln.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, &c.

LIVERPOOL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Mount Pleasant, Liverpool.—Honorary Assistant Physician.

LONDON HOSPITAL, E.—Registrar and Demonstrator in the Ear, Throat, and Nose Departments.

LONDON HOSPITAL MEDICAL COLLEGE.—Demonstrator in Physiology. Salary £150 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with board and residence.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Resident Surgical Officer. Salary £80 per annum, with board and residence.

MEDICAL MISSION HOSPITAL, Balaam-street, Plaistow, E.—Junior Resident Medical Officer (female) for six months. Board, residence, and laundry.

MELBOURNE UNIVERSITY, Victoria, Australia.—Chair of Veterinary Pathology and Directorship of the Veterinary Institute. Salary £900 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—House Physician. Salary £75 per annum, with board, residence, and washing. Also House Physician at Northwood. Salary £75 per annum, with board, residence, and washing.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £160 per annum.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Two Resident Medical Officers. Salaries in each case at rate of first four months £80 per annum, second four months £100 per annum, third four months £120 per annum, with board, residence, and laundry.

NORTHAMPTON GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £90 per annum, with apartments, board, washing, and attendance.

NOTTINGHAM CHILDREN'S HOSPITAL.—House Surgeon (female) for six months. Salary at rate of £100 per annum, with apartments, board, and washing.

NOTTINGHAM CITY ASYLUM.—Locum Tenens (July). Salary 4 guineas per week, with board, &c.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon unmarried. Salary £160 per annum, with apartments, attendance, light, and fuel.

NOTTINGHAM WORKHOUSE INFIRMARY.—Resident Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, washing, and attendance.

PORTSMOUTH BOROUGH.—Assistant Medical Officer for the Inspection of School Children. Salary at rate of £250 per annum.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Junior House Physician. Salary £60 per annum, with residence, board, and laundry. Also Honorary Anæsthetist. Also Honorary Surgical Registrar.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, N.E.—House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Senior Resident Medical Officer. Salary at rate of £70 per annum, with board and washing. Also Visiting Anæsthetist. Salary at rate of £25 per annum.

ST. GEORGE'S UNION INFIRMARY, Fulham-road, S.W.—Second Assistant Medical Officer. Salary £130 per annum, with board, residence, and washing.

ST. LEONARDS-ON-SEA, BUCHANAN HOSPITAL.—House Surgeon.

SALISBURY INFIRMARY.—Assistant House Surgeon. Salary £50 per annum, with apartments, board, lodging, and washing.

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN.—Assistant House Surgeon. Salary £40 per annum.

SHEFFIELD ROYAL HOSPITAL.—Sixth Resident, unmarried. Salary £60 per annum, with board, lodging, and washing.

SOUTHAMPTON FREE EYE HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

STROUD URBAN AND RURAL DISTRICTS AND NAILSWORTH URBAN DISTRICT.—Medical Officer of Health and School Medical Inspector. Salary about £515 per annum.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—House Physician. Salary £100 per annum, with board, residence, and laundry.

TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House Physician, unmarried. Salary £100 per annum, with board, residence, &c.

WAKEFIELD GENERAL HOSPITAL.—Second House Surgeon, unmarried. Salary £120 per annum, with board, lodging, and washing.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary at rate of £100 per annum, with board, lodging, and laundry.

WESTERN OPHTHALMIC HOSPITAL, Marylebone-road, W.—Non-resident House Surgeon. Salary £50 per annum.

WEST LONDON HOSPITAL.—Physician. Also Non-resident Casualty Officer for six months. Salary at rate of £100 per annum, and lunch.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician. Salary £80 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon for six months. Salary £80 per annum, with board, rooms, and laundry.

WOMEN'S HOSPITAL FOR CHILDREN (Out-patient Department), 688, Harrow-road.—Assistant Surgeon (female).

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Acts at Frodingham, in the county of Lincoln.

Births, Marriages, and Deaths.

BIRTHS.

TOVEY.—On May 6th, at Kaponga, Taranaki, New Zealand, the wife of Arthur Hamilton Tovey, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

MARRIAGES.

COLT—DICK.—On June 12th, at Chalfont St. Giles Parish Church, by the Rev. James McIvor Stephens, M.A., George Herbert Colt, M.A., M.B., F.R.C.S., of 12, Bon Accord-square, Aberdeen, son of the late Frederick Hoare Colt, Barrister and Bencher of the Inner Temple, London, to Henrietta Dodgshun, daughter of the late Thomas Dick and of Mrs. Dick, 12, Springbank-terrace, Aberdeen.

DEATHS.

WATERS.—On June 8th, at 69, Bedford-street, Liverpool, Alderman Thomas Houghton Waters, M.D., F.R.C.P., aged 86 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MALTESE COMMISSION REPORT: MEDITERRANEAN FEVER.

Sir Francis Mowatt, G.C.B., I.S.O., the Right Hon. Russell Rea, M.P., and Sir Mackenzie Dalziel Chalmers, K.C.B., C.S.I., the Royal Commissioners appointed to inquire into the finances, &c., of Malta, have concluded their investigations, and their report has just been presented to Parliament. Subjoined are extracts from it:—

"The origin of the Maltese people is not definitely known. The type is South European, but the people are fairer in colour, in the towns at any rate, and have a better appearance than South Italians or Sicilians. They are a strong, hardy race, and have the reputation of being temperate, thrifty, and industrious. They are clever and adaptable; generally speaking, however, they appear to lack confidence in themselves and each other, and to have little power of coöperation. They are much attached to their native islands, and seldom emigrate to distant countries.

"The hospitals, lunatic asylums, poor-house, and Government dispensaries, as well as the distribution of outdoor relief and other charitable grants, are administered in Malta by the Comptroller of Charitable Institutions, and in Gozo by the Assistant Secretary of the Government. ..... The Government maintains seven hospitals, five in Malta and two in Gozo (daily average in 1910–11, 424 patients), a lunatic asylum (daily average 750), two poor-houses (daily average 1051), a leper asylum (daily average 61), an orphan asylum (daily average 96), and an industrial school (daily average 30). This list does not include the quarantine hospital on Comino, which, however, has only been used twice during the last six years. There are 28 Government dispensaries in Malta, in charge of 22 district medical officers, and nine in Gozo, in charge of four district medical officers. In 1910–11 the number of patients advised or treated at the dispensaries or at their own homes was, in Malta, 101,167, and in Gozo 18,726.

"The present position of the island with regard to Mediterranean fever is, in some respects, far from satisfactory. The researches of Sir David Bruce and others established beyond doubt that goats' milk was the main source from which human beings became infected. When the supply of fresh milk to the army and navy was stopped, and imported preserved milk was substituted, the disease was soon stamped out among soldiers and sailors. But the fever still prevails among the civil population. In 1909–10 there were 468 cases and 53 deaths, and in 1910–11 there were 300 cases and 35 deaths. Apart from the loss of life and loss of efficiency caused by the continuance of Mediterranean fever among the people of Malta, the financial effects are very serious. Some 400 goats, which are found to be infected, are destroyed every year, and compensation has to be paid to their owners. It seems also that the milk of other animals, such as cows and sheep, can convey the disease. In Gozo large quantities of cheese are made from sheep's milk, but we were informed that Turkey, which was the best market for this cheese, had prohibited its import on the ground that the cheese may convey the disease. Obviously, the loss of the milk-supply to the garrison and the fleet must be a severe blow to the Maltese farmers. The imports of preserved milk are said to amount to something like £10,000 a year. We think that further investigation into the genesis of Mediterranean fever should be carried out at once. It is of the utmost importance to find out how the infection is conveyed to goats and other susceptible animals, and whether it is or is not inherent in the soil, and whether, if the disease is endemic in the island, it is possible to immunise the susceptible animals. But it would not be fair to charge the cost of this investigation on Malta alone. The so-called Mediterranean fever is a widely disseminated disease. It has been found in the Philippine Islands and in India, and is known in South Africa as camp fever, and in Gibraltar as rock fever. Any investigation into its origin and the means of eradicating it is of world-wide importance, and should be regarded as a general research in tropical medicine, though Malta may be the most favourable place for studying the disease.

"It appears to us that the attractions of Malta as a winter resort for health and pleasure have not been duly appreciated. Some of the most rapidly expanding trades in the world are those which provide transport and entertainment for the increasing multitudes who seek health, pleasure, and sunshine in southern latitudes in the winter. By these Malta is almost entirely passed by, yet Malta combines some advantages and attractions which can scarcely be found elsewhere. The climate in winter is as sunny as, and more equable than, that of either the Riviera or Algiers. Frost is almost unknown. The island does not possess the grandeur of scenery of either coast of the mainland, but both Malta and Gozo are beautiful and interesting islands. Valetta is the cleanest, and in situation and architecture one of the most beautiful, of the cities

of the Mediterranean. The two great harbours with their branch harbours afford excellent water for rowing and sailing. The old ramparts and fortifications, with the numerous and extensive public gardens, provide clean, picturesque, and attractive promenades. The new system of drainage is complete in the towns, and the water-supply is good. There is a handsome opera house which is open all the winter. English is spoken commonly in Valetta. The island has the advantage of a large English garrison and is the headquarters of the Mediterranean Fleet. English sports, including golf, are obtainable. As a centre from which to visit other places Valetta is convenient. Syracuse can be reached by a daily steamer in eight hours and Tunis in 18 hours. Both islands are extraordinarily rich in archæological, historical, and architectural interest. It appeared to us that, with so many attractions, many of which are not shared by any other of the places of resort for pleasure and health on the coasts of the Mediterranean, it is somewhat singular that Valetta should not possess any large hotel of the first class. We ascertained that the Government are willing to surrender, on advantageous terms, a site in a central, beautiful, and commanding position. Such a hotel would add to the convenience and attraction of Malta as a place for winter residence, and contribute greatly to the prosperity of the city of Valetta."

NASAL DILATING CLIP.

To the Editor of THE LANCET.

SIR,—With reference to the note in THE LANCET of June 1st, on p. 1480, of a nasal dilating clip by Mr. H. J. L. Bullen, M.R.C.S., we should like to point out, in order to prevent a misunderstanding, that we have supplied a similar clip, and have listed it in our catalogues since 1896 at 9*d.* each. I am, Sir, yours faithfully,

M. SCHAERER A.G.

41, Berners-street, London, W., June 5th, 1912.

DISTRICT NURSING AND THE NATIONAL INSURANCE ACT.

THE Lord Mayor presided at the fifty-fifth anniversary of the London Bible women and Nurses' Mission on Monday last, their reception at the Guildhall being ascribed by the Marquis of Northampton to the chairman's professional interest in their work. Sir Alfred Pearce Gould, alluding to the Hospital Sunday Fund, said that hospitals by no means covered the whole field of medical need. There were vast numbers of sick and suffering who never went into hospital, many did not need to, and many were discharged incurable, but still needing nursing care. He reminded his hearers that one effect of the Insurance Act would be that hospitals would be less used, patients would remain at home under the care of their own local doctor, and therefore district nurses would be more in demand than ever if their treatment was to be carried out satisfactorily. Speaking of the changes which had taken place in the art of nursing during the last 30 years, he compared, as an example, the old, dirty, heavy poultice, which was as dead as Queen Anne, and which every woman used to think she could make, with the modern aseptic dressings requiring absolute cleanliness, accurate preparation, and skilful application. In conclusion, he said it was difficult to kill a misunderstanding. Because Mrs. Ranyard had started a Bible women's Mission, people were apt to think of its members as Gamps; the present Ranyard nurse was fully trained, in every respect the same as the nurses in hospitals or in private homes; there was a mission, but if Christianity was not going to make better nurses, there was no use for Christianity at all.

THE LEAGUE OF MERCY.

To the Editor of THE LANCET.

SIR,—In the Western district of London a branch of the "League of Mercy" has been formed, and the members are desirous of holding a ball, or concert and ball, at one of the local town-halls in the autumn to assist the funds of the above, and at the same time to keep in memory the name of King Edward, who was instrumental in forming the "League of Mercy." With this object in view it has been decided to name the branch "King Edward's Memorial Fund of the League of Mercy."

Will any lady or gentleman interested in this kind of work, who would be willing to assist the committee either by organising, selling tickets, or to help financially, kindly communicate with me? Assistance in any form in this good work would be deeply appreciated by the committee.—I am, Sir, yours faithfully,

H. E. GOLIGHTLY,
Hon. Secretary, Western Branch League of Mercy.

17, Richmond-place, Lillie Bridge, West Brompton, S.W.,
June 5th, 1912.

THE DANGER OF PETROL IN SEWERS.

A GRAVE warning, under the head of "Petrol in Sewers—a Modern Danger," has been issued by the Manchester Rivers Committee regarding the discharging of petrol or other kindred spirits into sewers. The increasing use of petrol for motor vehicles, as well as for purposes of cleaning fabrics of various kinds, is occasioning a state of things to which it is important that public attention should be drawn. Instances are given where serious loss of life, both in Manchester and elsewhere, has occurred from the ignition of the very inflammable vapour discharge from petrol. It has been calculated that one gallon of petrol, if vapourised into air, will produce something like 50 cubic yards of explosive mixture. A medium-sized sewer, running half full, would only require a gallon of petrol to produce sufficient vapour to blow up some 50 yards of the sewer. In these circumstances it is of the highest importance that the greatest care should be taken, not only by the users of petrol in quantity, such as the proprietors of motor garages, &c., but also by the general public to avoid the discharge of even minute quantities of petrol or allied spirits into the sewers or drains, as these small quantities are liable to accumulate in gulley-traps and in any portions of the sewers where the flow is inclined to be sluggish. No more petrol should be used at one time than can be spontaneously evaporated without nuisance or danger. It is dangerous to put even a cupful of petrol down the sewers, because it accumulates and very soon becomes a dangerous quantity. In New York the danger has become acute. The committee is contemplating putting up notices in all garages and elsewhere in order that the danger may be known.

THE CHILDREN'S COUNTRY HOLIDAYS FUND.

As long as slums and alleys exist in our midst, so long will it be necessary, in the interests of the public welfare, that the children who are compelled to live in such vitiated environment should at least have a few days' holiday in the fresh air which the fields of the country and the shores of the sea can provide. The moral and physical good which accrues to such children from contact with wholesome surroundings is impossible to estimate. We have now several societies whose object is to palliate in this way some of the evils of poverty, and none of these societies does better work than the Children's Country Holidays Fund, whose twenty-eighth annual report lies before us. This report, for the year 1911, states that 45,174 poor children, selected by workers and visitors connected with 63 London local committees, were sent away last year for a fortnight's holiday in the country. The children were received into cottage homes after careful inquiry and inspection by a band of over 1000 voluntary workers in the country, who undertake to make all arrangements for them during their holiday. This fund, one-third of the revenue of which is derived from the contributions of the parents of the children sent away, is in want of help and workers, and we cordially commend it to the charitable public. All donations should be sent to the Earl of Arran, honorary treasurer, 18, Buckingham-street, Strand, London, W.C., and offers of personal help will be gratefully received by the secretary at the same address.

R. G. P.—We have frequently referred to the matter; the condition no longer exists.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced for June and July:—

May to October (London, Earl's Court).—Shakespeare's England.
June 12th–22nd (London).—Missionary Exhibition.
,, 17th–29th (London, Olympia).—International Horse Show.
,, 21st and 22nd (Middelburg).—Dutch Congress for Public Health Regulations.
,, 23rd–27th (London, Royal Horticultural Hall).—The (Biennial) Health Conference and Exhibition.
,, 29th (Coventry).—Society of Medical Officers of Health (Annual Provincial Meeting).
,, (Birmingham).—Tuberculosis Exhibition.
,, (London, Science Museum, South Kensington).—Second Optical Convention.
July 2nd–5th (London).—Congress of the Universities of the Empire.
,, 2nd–6th (Doncaster).—Seventy-third Annual Show of the Royal Agricultural Society of England.
,, 4th–6th (Dublin).—Celebration of the Bicentenary of the School of Physic in Ireland (Medical School of Trinity College, Dublin).
,, 12th–16th (London).—Imperial Conference of Teachers' Associations.
,, 17th–19th (Oxford).—Oxford Ophthalmological Congress.
,, 19th–27th (Liverpool).—British Medical Association, Eightieth Annual Meeting.
,, 24th–30th (University of London).—First International Eugenics Congress.
,, 25th–28th (Berlin).—Royal Institute of Public Health.
,, 26th–31st (Prague).—Sixth International Congress of Radiology and Medical Electrology.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Dr. D. Ellis: An Investigation into the Life-history of Cladothrix Dichotoma (Cohn) (communicated by Mr. H. Wager). —Mr. L. Hill and Mr. M. Flack: The Relation of Secretory and Capillary Pressure. I., The Salivary Secretion.—Mr. G. W. Ellis and Mr. J. A. Gardner: The Origin and Destiny of Cholesterol in the Animal Organism. Part IX., On the Cholesterol Content of the Tissues other than Liver of Rabbits under Various Diets and During Inanition (communicated by Dr. A. D. Waller). —Mr. C. H. Martin: A Note on the Protozoa from Sick Soils, with Some Account of the Life-cycle of a Flagellate Monad (communicated by Prof. E. A. Minchin).—Dr. E. W. A. Walker: Further Observations on the Variability of Streptococci in Relation to Certain Fermentation Tests, together with Some Considerations Bearing on its Possible Meaning (communicated by Prof. F. Gotch).—Dr. A. Harden and Mr. W. J. Penfold: The Chemical Action on Glucose of a Variety of B. Coli Communis (Escherich), obtained by Cultivation in Presence of a Chloroacetate (preliminary notice).—Mr. V. J. Harding: The Action of Enzymes on Hexosephosphate (communicated by Dr. A. Harden).—Prof. F. W. Keeble and Dr. E. F. Armstrong: The Oxydases of Cytisus Adami (communicated by Prof. W. Bateson).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

SPECIAL MEETING OF FELLOWS OF THE SOCIETY: at 5 P.M.

Discussion

On Syphilis with Special Reference to

(*a*) Its Prevalence and Intensity in the Past and at the Present Day.

(*b*) Its Relation to Public Health, including Congenital Syphilis.

(*c*) The Treatment of the Disease.

The Discussion will be re-opened by Mr. Ernest Lane, and will be continued on Monday, June 24, at 5 P.M.

The following gentlemen will take part in the Discussion:—Mr. Jonathan Hutchinson, Mr. J. E. R. McDonagh, Mr. Macleod Yearsley, Mr. J. F. Briscoe, Dr. G. Pernet, Mr. H. W. Bayly, Dr. G. Ogilvie, Major French, Sir George Savage, Dr. Douglas White, Dr. F. E. Fremantle, Dr. H. R. Dean, Mr. J. H. Dauber, and the President (Sir Henry Morris, Bart.) will wind up the Discussion.

THURSDAY.

DERMATOLOGICAL SECTION (Hon. Secretaries—J. H. Sequeira, Wilfrid Fox): at 5 P.M.

Annual Meeting—Election of Officers and Council for the ensuing Session.

Cases:

Dr. Norman Meachen and Mr. F. L. Provis: Alopecia Areata et Totalis Cured by Pregnancy and Relapsing with the Establishment of the Menses.

Dr. Arthur Whitfield: A Baby showing the Early Stages of Development of the "Systematised Nævus."

Dr. J. H. Sequeira: Cases of Pityriasis Rubra Pilaris. And other Cases.

SPECIAL MEETING: at 8.30 P.M.

Discussion:

Prurigo, Lichenification and Allied Conditions (opened by the President, Sir Malcolm Morris, K.C.V.O.).

MEDICO-LEGAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

TUESDAY.—8.30 P.M., Dr. E. Pritchard: State Regulation of the Manufacture and Sale of Patent and Proprietary Medicines, Foods, and Appliances.

THURSDAY.—Annual Dinner at Holborn Restaurant.

ROYAL METEOROLOGICAL SOCIETY, 70, Victoria-street, Westminster, S.W.

WEDNESDAY.—4.30 P.M., Mr. W. W. Bryant: The Adoption of a Climatological Day.—Mr. A. P. Jenkin: A Three-Year Period in Rainfall.

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—8 P.M., The Rt. Hon. Lord Avebury: Notes on Pollen. —Dr. J. F. Gaskell: Demonstration of a Method of Obtaining Frozen Sections After Embedding in Gelatin.—Mr. Heron-Allen and Mr. A. Earland; On Some New Astrorhizidae and their Structure.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—8.30 P.M., Annual General Meeting. Dr. M. Sanderson: The Human Trypanosomiasis of Nyasaland.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY AND THURSDAY.—5 P.M., Mr. L. Dudgeon: The Pathology of Immunity, as Illustrated by the Behaviour of Fluid Exudates from the Tissues and Various Body Cavities, in Acute and Chronic Bacterial Infections, more especially with Regard to the Problem of Aggressins. (Croonian Lectures.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. A. M. H. Gray: Clinique (Skin). 5.15 P.M., Lecture:—Sir William Collins: The Opium Convention—Drugs and Legislation.

TUESDAY.—4 P.M., Dr. J. Collier: Clinique (Medical) 5.15 P.M., Lecture:—Dr. J. H. Stowers: The Nature and Treatment of Certain Skin Affections in Childhood.

WEDNESDAY.—4 P.M., Mr. C. Rowntree: Clinique (Surgical), 5.15 P.M., Lecture:—Dr. A. F. Tredgold: Moral Imbecility.

THURSDAY.—4 P.M., Dr. P. Parkinson: Clinique (Medical) 5.15 P.M., Lecture:—Dr. W. J. Hadley: Early Diagnosis of Phthisis.

FRIDAY.—4 P.M., Mr. G. J. Jenkins: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. P. Dunn: The Eye Symptoms of Syphilis.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 11 A.M., Mr. Rtherington-Smith: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Pritchard: Clinical Pathology.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Dr. D. Robinson: Gynæcological or Obstetrical Subjects.

THURSDAY.—10 A.M., Dr. Simson: Gynæcological Demonstration. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Davis: Diseases of the Throat.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. Bishop Harman: Diseases of the Eye. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. H. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan).

TUESDAY.—Clinic; 2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Gynæcological (Dr. A. B. Giles). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting). 4.30 P.M., Special Demonstration:—Dr. A. G. Auld: Selected Medical Cases.

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 8 P.M., X Rays (Mr. W. Steuart); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. B. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappell). 4.30 P.M., Special Demonstration:—Mr. E. Gillespie: Selected Surgical Cases

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.30 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 3.15 P.M., Dr. R. Wells: Medicine. 2.15 P.M., Mr. R. Carling: Surgery. 4.15 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye. 3.30 P.M., Special Lecture:—Mr. Cargill: Some Morbid Conditions of the Fundus Oculi.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Mr. Turner: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 4.30 P.M., Dr. W. Steuart: Radiography. 4.30 P.M., Special Lecture:—Mr. Choyce: Aseptic Technique.

FRIDAY.—11 A.M., Dr. A. Davies: Pathological Demonstration. 2 P.M., Operations. 2.15 P.M., Sir J. Rose Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—Out-patient Demonstration:—10 A.M., Surgical and Medical. 11 A.M., Eye.

LONDON HOSPITAL MEDICAL COLLEGE, Clinical Theatre, London Hospital, Mile End-road, E.

MONDAY.—4.15 P.M., Clinical Lecture:—Dr. H. Head: Diagnostic Value of Sensory Changes in Diseases of the Nervous System.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.

TUESDAY.—5 P.M., Dr. A. Morison: The Nature and Treatment of Sensory and Motor Disorders of the Heart (illustrated by lantern slides and Microscopic Sections). (Lecture III.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.
TUESDAY.—3.30 P.M., Clinical Lecture:—Mr. L. Paton: Optic Neuritis.
FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. Ormerod: Hysteria.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.
WEDNESDAY.—4 P.M., Dr. Hartley: Some Unusual Cases of Pleural Effusion.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.
TUESDAY.—6 P.M., Dr. W. Griffith: Acne and its Treatment.

MANCHESTER ROYAL INFIRMARY.
TUESDAY.—4.30 P.M., Dr. C. Moore: The Medical Treatment of Gastro duodenal Ulcers. (Post-Graduate Clinic.)
FRIDAY.—4.30 P.M., Mr. Telford: Some Forms of Spastic Paralysis in Childhood. (Post-Graduate Clinic.)

ANCOATS HOSPITAL, Manchester.
THURSDAY.—4.15 P.M., Dr. C. H. Melland: Some Recent Cases of Severe Anæmia. (Post-Graduate Clinic.)

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.). Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (19th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's 2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (20th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.)., Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (22nd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.), Hospital operations are performed daily.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 12th, 1912.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
June 6	29·72	W.	...	123	70	50	54	60	Fine
,, 7	29·82	N.	0·21	74	60	52	53	55	Overcast
,, 8	29·85	N.W.	0·61	87	61	53	54	55	Raining
,, 9	29·97	S.	0·01	101	66	53	54	57	Cloudy
,, 10	29·83	S.W.	0·22	127	67	53	55	60	Cloudy
,, 11	29·71	S.E.	0·01	123	70	51	56	61	Cloudy
,, 12	29·82	N.E.	0·03	102	65	56	56	58	Overcast

The following journals, magazines, &c., have been received:—Journal of Tropical Medicine and Hygiene, Polyclinic, Die Therapie der Ergenwart, Nordiskt Medicinskt Arkiv, Archives de Médecine et Pharmacie Navales, Archives Générales de Médecine, Zoophilist, British Journal of Children's Diseases, Medical Review, St. George Hospital Gazette, Detroit Medical Journal, Public Health, Indian Medical Journal, Journal of State Medicine, American Journal of Medical Sciences, Clinical Medicine, Maryland Medical Journal, Monthly Cyclopædia and Medical Bulletin, Archiv für Experimentelle Pathologie und Pharmakologie, Archivos Brasileiros de Medicina, Local Government Review, Dublin Journal of Medic Science, Archives de Médecine et de Pharmacie Militaire, &c.

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